GAILLARD'S MEDICAL JOURNAL

AND

(*THE AMERICAN MEDICAL WEEKLY.*)

(CONSOLIDATED.)

Scientia et Veritas Sine Timore.

VOL. XXXVII. NEW YORK, APRIL, 1884. No. 4.

ORIGINAL ARTICLES.

ARTICLE I.—RECTAL PALPATION AND INSPECTION AS MEANS OF DIAGNOSIS. By PHILIP S. WALES, M.D., Surgeon-General U. S. Navy. Read before the Naval Medical Society, Washington, D.C.

Systematic and thorough examination is, as in inquiries into pathological conditions of all other organs, indispensable for the determination of the presence and nature of those of the ano-rectal region and for their successful treatment. As these diseases are not marked by any characteristic category of symptoms, the physician chiefly depends upon the indications furnished by palpation and inspection. It is, therefore, important for him to be minutely conversant with the various exploratory methods that are dependent upon the intelligent employment of the tactile and visual senses. This is all the more important, as the morbid processes which arise in this locality furnish an assemblage of human ailments that are occurring daily in both sexes, at all ages, and among people in every condition of life.

There are, however, several obstacles in the way of the acquisition of the knowledge alone attainable by these means. On the one hand, certain persons have an almost insuperable antipathy to any examination of this region until driven to do so by the exquisite anguish which is entailed by some of its diseases, or until the condition of the parts renders concealment no longer possible. This is especially the case with women, who shrink from the ordeal, either from timidity or natural modesty. On the other hand, the neglect or delay in making the necessary exploration is in many cases chargeable to the physician. It may be that he has conceived a repugnance to the performance of the required manipulation, or has recoiled from the disagreeable duty of urging submission on the reluctant patient, or has deferred the examination in the ofttimes barren hope that the disease will be transitory, or will recede under restricted diet and simple remedies. Then, again, too little attention has heretofore been paid to the methods of rectal investigation, which have, however, been so greatly improved in the last few years, by the combined labors of various individuals, that the discrimination and treatment of these diseases have acquired the same

scientific precision that has obtained in the diseases of other parts of the body.

It is not here intended to intimate that physical exploration is the sole means of elucidating the nature of these cases; on the contrary, it is always important and often indispensable to supplement the information thus obtained by a full consideration of the general history of the patient, his age, idiosyncrasies, hereditary tendencies, etc. In many of these affections that have endured for some time, there is more or less mental despondency present; the patient is irritable, and often conjures up dreadful anticipations of future suffering; and the mental state not infrequently approaches that of confirmed hypochondriasis. The constant subject of his contemplation and conversation are his ailments, which are frequently highly-colored exaggerations of easily remediable conditions, or are even fanciful creations.

Those diseases that are attended with constant discharges, pain, and loss of rest, lead, after a time, to a general impairment of health; the countenance assumes a pale or waxy hue, and the prolonged sufferings of the patient are mirrored in his face; his flesh wastes, his strength gives way, and all aptitude for either business or pleasure vanishes in the meantime.

There is ordinarily nothing specially peculiar in the pain experienced in these maladies, with the exception of that of fissure and anal cancer. In fissure, it is of the severest character, and begins during the act of defecation, gradually increases to its greatest intensity in from twenty to forty minutes, when it declines and disappears until the next occasion returns for the evacuation of the bowels. Cancer located above the sphincters may make considerable progress without the manifestation of any pain at all, or so slight as not to create suspicion of the true nature of the disease, in consequence of the ampulla being sparsely supplied with nerves of common sensation. When the disease, however, is at the anus, the case is otherwise; the pain is almost always very severe, being of the gnawing, lancinating character observed in malignant growths in other regions. Inflammatory swelling about the anus, and abscesses before the matter has gained issue, often inflict exquisite suffering which is very much intensified during the expulsion of the feces. Although the character of the pain, as thus shown, possesses little diagnostic value, yet the presence or absence of pain; its course, whether intermittent or continuous; whether it is aggravated by defecation; or whether it precedes, accompanies, or follows defecation; may supply a suggestion as to the direction in which to look for the trouble complained of.

The nature of the discharges varies in the different diseases, and in the same disease in its different stages. The evacuations may be simply fecal, of varying degrees of consistence—purulent, serous, mucous, or bloody; but usually they present a heterogeneous aspect from the blending of these materials in divers proportions, or by their simple mingling. Blood, for instance, at times, is intimately mixed with the discharges, and at others merely smeared on the exterior. The color ranges through numerous tints from white to black, and those arising from the admixture of yellow and green. As to the character of the odor, there is equal variety, but the discharges, as a rule, differ in this respect from that of the ordinary contents of the bowels, being generally offensive. It

has been stated that it is quite peculiar and characteristic in syphilitic cases, but this I am unable to confirm; in dysenteric ulceration, I have always noted the odor as highly offensive.

When the feces are consistent, it is a matter of moment to ascertain their configuration and size, whether cylindrical, or flattened and tape-like, continuous, or broken into masses or balls, and whether of normal volume or undersized. Regard must also be had to the fact, whether the gaseous or fecal contents of the bowels pass voluntarily or involuntarily. When constipation prevails, the time of its occurrence should be noted; whether suddenly or gradually; and whether it alternates with diarrhœa.

Inquiry should be made as to the occurrence of any protrusion during the act of defecation, or in the intervals, its nature, reducibility, form, tendency (if any) to bleed, etc.; whether there are any excrescences or ulcerations around the anus; abnormal sensibility or itching, or discharge of any sort. Diseases in other parts of the body that may have possible relation with those of the rectum must not be overlooked; as phthisis with fistula, venereal affections with stricture, urinary, uterine, and vesical troubles with rectal irritation. A case is recorded, in the *Gazette Médicale* for 1837, of a man who, after six years of unavailing treatment for retention of urine, was speedily restored to health by the discovery and removal of a mass of hardened feces. Badly fitting garments and the habitual use of coarse materials for the purpose of cleansing the anus may furnish an explanation of certain morbid conditions. The recital of the patient that he has swallowed some foreign body, as a fragment of bone, the seeds of fruit, or that he has found such objects in his dejecta, may at times throw light upon otherwise obscure cases. The fact that, at some particular time, a foreign body had been purposely or by accident thrust into the rectum, may be revealed in the personal history of the patient, and thus determine the nature of the case at once.

Having obtained all the information that can be gleaned by verbal inquiry, the physical examination is then to be made, as the only certain means of arriving at a correct conclusion. The bladder of the patient having been emptied and the rectum washed out by an injection, he should be placed in a position which entails the least suffering to himself, and affords the greatest comfort and convenience to the operator. As a special couch may not be at hand for this purpose, the next best thing is an ordinary lounge, which can be drawn to the window where a good light may be had. For office work, I employ a folding table, furnished with drawers to hold the ordinary instruments and medicaments, which, when opened, forms a couch seventy-eight centimetres high. In the majority of cases, the most desirable position in which to place the patient is upon the side, with both thighs strongly flexed upon the abdomen; some prefer to have the inferior thigh extended, and the superior one bent. The former position is preferable, inasmuch as it permits the buttocks to be brought to the edge of the table or couch, and renders the separation of the nates more convenient, and presents to inspection the whole extent of the perinæum. If it be desirable, the patient may be directed to lift the nates of the upper side of the body with the corresponding hand. Other positions may

be adopted in special cases if necessary; for instance, upon the back, with the thighs drawn up and widely separated, as in the lithotomy posture; or the body may be supported in the genu-pectoral position, so as to cause the pelvis to assume the highest point in the plane of the body. Again, valuable information may be gained by conducting the examination in the erect position, with the thigh flexed and the foot supported on a chair; the weight of the viscera is thus utilized in pressing the higher part of the rectum downwards within reach of the tip of the finger. This result is still further favored by causing the patient to strain down as if to evacuate the bowels. I have often conducted the examination with the patient leaning over the edge of a bed or the back of a chair. Digital examination conducted in this way enables the operator to explore ten or twelve centimetres of mucous surface; the suggestion of Amussat to increase the length of the finger with an ivory thimble is of no practical value.

There is considerable variety as regards the normal perinæum, both as to amplitude and form. In some persons, the pelvic outlet is large, and the perinæum correspondingly ample; in others, the ischia approximate the median line, and the pubic arch is narrow, thus diminishing the area of the region. The form varies with the degree of adiposity or thinness; in certain subjects the surface is flat, the skin seeming to be stretched across the outlet like the head of a drum, and in others it is more prominent and arching. The surface is pigmented in various degrees in different persons and in different races, and supplied with hair varying in length and quantity. It is abundantly provided with glandular appendages, the mouth of the ducts being plainly visible as dots scattered over the surface. The anus is buried deep in the cleft of the nates in fat persons, and more superficial in thin. It appears in health as a circular or elliptical muscular ring, with its surface marked by smooth and delicately pigmented radiating folds. It is firmly contracted, and resists the introduction of the tip of the finger. Should there be no unusual degree of tension of the sphincter, pressure with the fingers upon its margins will evert the anal mucous membrane, when at least one centimeter of its surface may be inspected, and any morbid alterations it may have undergone, as fissures, hæmorrhoids, be determined, or the presence of parasites or foreign bodies be ascertained. The tip of the finger should be gently pressed in a line forwards and upwards into the anus, to ascertain the amount of muscular tension present, which varies with age, individual peculiarities, the condition of health, and in different diseases of the rectum. It behoves the practitioner to familiarize himself with the normal tension, as an important point in diagnosis, and of clinical value in certain cases where the sphincter is to be invaded with the knife; the relaxed or paretic anus is tardy in recovering its tone and may never do so after division. The manœuvre, however, must be executed deftly, otherwise deceptive impressions will be received from the involuntary efforts which most patients make against the introduction of the finger. Gentleness, patience, and the co-operation of the patient in breathing freely, so as to relax the muscles of the perinæum and abdomen, will remove any exaggerated degree of momentary contraction. A correct knowledge of these varying physical peculiarities of the

normal perinæum is indispensable for a correct appreciation of its deviation from the normal.

The external surface may first be scanned to ascertain the condition of the skin, the presence or absence of eruption, of inflammatory swellings or abscesses, of ulcerative processes, hæmorrhoidal or other growths, prolapsus ani, polypi or fistulous apertures.

Anal erythema is a frequent disease ; it consists of a dermatitis of the skin, and is caused by prolonged irritation of the part, by which the epithelium is removed, exposing raw, tender, excoriated surfaces, discharging a serous and odorous fiuid that does not stiffen the linen as that of the exudative dermatoses ; there is more or less itching present. The erosions are red, and stippled with white spots which correspond with the mouths of the excretory glands; the epithelium of the surrounding region presents a whitish and macerated appearance. The erosions are ordinarily located on the prominent folds of the anus which are most exposed to friction, but may extend within the sphincter. They persist as long as the local causes upon which they depend exist. Among these causes rank the effects of friction between the gluteal surfaces, mostly observed in fat persons or in those who do much walking, excess of perspiratory secretion, worms, and the irritation arising from the discharges consequent to various diseases of rectum and alimentary canal.

Eczema affects the skin of this region in the erythematous, the squamous, and papular forms ; it may be confined to the anus, or extended over a greater or less extent of the perinæum. The surface is red, infiltrated, and moist, the secretion presenting a serous character and disagreeable odor; there is itching, often of an intense character, and pain in moving about. The disease may originate without any tangible cause, but is usually due to the irritation of profuse and altered intestinal discharges, and to local rectal affections.

Herpes presents itself in the form of vesicles grouped on an inflamed and slightly elevated base. They are filled with a clear, serous fluid, which, after a brief period, turns opalescent and escapes, forming brownish crusts. The crusts, in falling, leave small superficial erosions, that may coalesce and form a large ulcer with festooned borders. These ulcers are disposed to heal promptly, and are attended with moderate heat, pain, and itching. It is important to distinguish them from venereal ulceration, erythema, and fissure. This is easily done by contrasting their characters of ready disposition to heal, vesicular beginning, superficiality, position around the anus, and the festooned outline of their borders, with those of the diseases mentioned, which are very dissimilar. The chancre is harder and deeper, occupies the margin or inner surface of the sphincter, and is accompanied with engorgement of the inguinal glands ; the chancroid has the same seat as chancre, but is auto-inoculable ; erythema is an erosion, and not an ulceration. Either of the venereal ulcers may, however, be engrafted upon the herpetic.

Pruritus ani is characterized by intense itching. It affects children more commonly than adults. No changes in the part are appreciable, other than those attributable to the frequent scratching which the disease provokes, and there is

often a peculiar depigmentation, which is characteristic. It may sometimes be traced to a local cause, as hemorrhoids, or to the presence of some foreign object. By gently pressing aside the rectal folds, I was once enabled to diagnose and speedily cure an inveterate case of this sort, due to thread worms, that had endured nearly two years. In another case, a little girl, eleven years of age, who had suffered for months with pruritus vaginæ, I relieved the trouble entirely by destroying the thread worms that had crawled from the anus to the vulva. In certain cases the cause is not apparent, the itching being seemingly dependent upon a pure hyperæsthesia of unascertainable origin.

Abscesses are common in this region; they occur more frequently in men than in women, and among persons of the middle period of life than in infancy or old age; and are either idiopathic or traumatic. Persons in apparently vigorous health sometimes suffer from them in consequence of some indefinable constitutional condition; at other times they may be fairly traceable to evident impairment of the vital powers, as in tuberculosis, for instance; though the same result may flow from the deposit of tubercular matter in the part itself. Most frequently, however, abscesses are traceable to local causes; the action of vulnerants, blows or falls, prolonged riding; the injury inflicted by hardened feces, or rough objects that have been swallowed; or to ulceration of the rectal walls, by which an avenue is opened for fecal extravasation into the peri-rectal connective tissue. The disease is sometimes consecutive to morbid processes located in the rectum itself, or in the adjoining organs, or to some particular perineal dermatosis.

The physical appearances of abscesses will vary according to their nature and location. Those of a superficial character, seated in the skin and its glandular apparatus, present themselves as circumscribed, tender, red, and often painful tumors. Deep-seated abscesses occur in the cellulo-adipose tissue, filling up the ischio-rectal fossa, either above or below the plane of the levator ani muscle; they occasion much distress, and at an early period cause a dull, heavy pain, and later, very severe suffering until the pus gains an outlet. The perinæum feels boggy or brawny; the surface is of a red, violaceous or lurid color. Fluctuation is not evident until the matter has advanced to the exterior, or near to the intestinal wall. Chassaignac has recommended a manœuvre to detect the presence of pus, and at the same time to develop tenderness; it consists in introducing the thumb into the rectum and placing the fingers upon the perinæum, so that the tissues may be pinched between them. One of the worst species of abscess of this region is that which takes its origin in the extravasation of urine. In women, perineal abscess may be confounded with the same process occurring in the vulvo-vaginal glands, with which it has many points in common. Huguier remarks that stercoral abscess only occurs in women afflicted with rectal inflammation and ulceration resulting from vicious habits, hæmorrhoids, rhagades, or anal fissure. The course of the abscess is slower, fluctuation more difficult to detect; there is more extended bogginess, which is much less circumscribed than in phlegmonous inflammation of the glands; it does not form a spherical tumor, which is movable beneath the fingers; the pus is much greater in quantity than would seem to be in accord with the size

of the tumor; examination of the anal region and rectal palpation will show disease of the bowel; moreover, the finger in exploring the walls of the rectum may feel a depression or infundibulum which communicates with the purulent cavity.

Ulceration, encountered in the ano-rectal region, is due to various causes: 1st, to simple inflammatory action; 2d, to specific inflammation—gonorrhœal, chancroidal, or syphilitic; 3d, to scrofulous and tuberculous action; 4th, to cancerous degeneration.

Simple ulceration that arises from ordinary inflammatory action is found associated with herpetic and eczematous eruptions in the form of erosions, or small, linear or oval ulcers, the so-called rhagades, which occupy the anal folds; they are entirely distinct from those of venereal origin, either local or constitutional, although they may be inoculated with the specific virus of those diseases.

Gonorrhœal ulceration is the result of the direct application of the purulent secretion of that disease; it shows itself under the forms of erosion and fissures similar in character to those arising from acrid secretions from other than venereal sources.

Chancroidal ulceration is produced by inoculation of the part during coitus, or in pederasty, or by auto-inoculation from similar sores of the vulva. It is more frequent in the female than in the male sex; according to Fournier, as one to nine in the former, and only as one to four hundred and forty-four in the latter. Chancroid is commonly located on the margin of the anus, but may extend to the upper limit of the sphincter, and usually on the anterior and posterior segments, rarely the lateral; there are not often more than two present. When the sphincter is well dilated the sore appears as an oval breach in the surface, bounded by dusky-colored, perpendicular, and non-indurated borders; the base is covered with a closely-adherent, yellowish layer, which when removed leaves the subjacent surface raw and marked by grayish red striations, or, as in hæmorrhoidal subjects, by small denuded veins. There is a free discharge of a purulent, ichorous character, which produces similar sores by inoculation. Condylomata are almost constant companions of the chancroid, and in some cases there is suppurative adenitis in the groin. Pain of a moderate character is present at first when the part is handled, and also in defecation; but as the case advances, it often becomes excruciating from reflex excitation of the sphincter. No period of incubation is definable, and phagedenic complication is often observed. Under appropriate treatment the sores heal in from five to seven weeks, while under unfavorable circumstances it progresses until the entire anal region is involved, and the general health profoundly impaired. The subsequent repair of the ulceration and cicatricial contraction may originate stricture.

Chancrous ulceration of the anus is very infrequent, occurring in the proportion of one case to sixty-eight in other regions; in a tabulated exhibit of 1,237 cases, male subjects gave a proportion of one to one hundred and seventy-seven in other parts, and female, one to thirteen (Pean). It is the result of direct infection, and its secretion is not auto-inoculable as the chancroidal; in the

majority of cases it is probably the result of unnatural practices. Although located for the most part on the margin, yet, exceptionally, as I have seen, it may occupy a higher point. When more than one is present, the excess in number represents as many distinct infections. It presents a circular form margined by steep, indurated walls, inclosing an area of grayish color, secreting little pus. After running a chronic course the ulcer usually cicatrises ; rarely does it become complicated with phagedenism. There is little pain complained of, unless the sore is located within the sphincter, and then only during the act of defecation ; the lymphatic glands of the groin are swollen and indolent.

Among the secondary syphilitic manifestations in this region, the most frequent is the mucous patch which has been regarded by many observers as capable of direct infection. The folds of the anus are swollen and œdematous, and bear upon their surfaces ulcerated patches of greater or less extent, which do not trench upon the mucous membrane of the bowel. There is considerable variety in their appearance ; in some cases the surface is eroded, red and granular, a little hard, and but slightly raised ; in others more papular and raised ; in a third group ulcers are well defined. There are commonly several ulcers, which are not painful except during defecation, and they emit an opaline, thick, or diphtheritic secretion. They must be discriminated from chancroid, fissure, and erosion, which are conditions, however, that may complicate them.

Tertiary ulceration is very seldom observed in the ano-rectal region ; it has been described under the title of syphilitic lupus. The destructive changes result in the formation of angry and ragged-looking excavations, covered with a purulent, pultaceous pellicle, and bordered with hard, elevated and perpendicular boundaries. The gummata, which sometimes result in the formation of ulceration, occur as hard, rounded, and indolent tumors, which finally break down, leaving breaches of continuity of variable extent and aspect.

Anal ulceration is sometimes an expression of the scrofulous diathesis, although the phenomena commonly regarded as characteristic of this disease, as inflammation and suppuration of the lymphatic glands, may not be present. The process is similar in character to certain destructive changes met with in other regions of the body, known as lupus. Huguier, in an elaborate memoir, designates this condition under the title of *esthiomène*, and describes it as affecting conjointly the vulval and perineal regions. Two forms are said to occur, the erythematous and the tubercular ; in the latter, there arise rounded or oval elastic nodules of a violaceous color, covered with thickened epithelium, which after a time ulcerate, and form more or less irregular chasms with sloping indurated margins, and coarsely granulated bottoms, of a pale violaceous tint. The tubercles may be seen in various stages of degeneration, and those that have reached the ulcerated condition sometimes coalesce to form one great ulcer covering the vulva and perinæum, as I witnessed once in a scrofulous mulatto girl. In certain cases, the destructive changes invade the recto-vaginal septum, establishing a communication between the two cavities, and in others, causing stricture. The ravages of the disease may extend deeply into the perineal structures, dissecting up the organs and tissues in every direction. There is rarely any constitutional disturbance, and little local pain or tenderness. The

disease is to be differentiated from syphilitic, chancroidal, cancerous, and elephantiasic ulceration.

Tuberculons ulceration is either due to the deposit of tubercle in the part, or to the lowering influence of the tuberculous diathesis upon its nutrition, as happens in other conditions that impair the vital powers. In the first case, the process begins by the formation of gray deposits, about the size of millet seed, in the mucous membrane and subjacent connective tissue; retrogressive metamorphosis finally occurs, with the production of small lenticular ulcers with infiltrated margins, and discharging a thin purulent material. The ulcers enlarge, by the repetition of the process, in their circumference, until a greater or less extent of the mucous membrane is destroyed down to the muscular tunic; the surface is red and granular, and the adjacent tissues œdematous and livid. The process is always of a chronic character; the ulcers may cicatrise and cause stricture, or progress to the formation of abscess, perforation, or fistula. There will be similar deposits in other organs of the body. This form of ulceration must be diagnosed from chronic ulceration, chancroid, venereal sores, scrofulous and cancerous disease.

Cancer is the most formidable of the diseases of the rectum; it occurs in the scirrhous, epithelial, medullary, and colloid forms. In the beginning, the finger encounters the deposit in indurated or nodulated patches, and in rare cases, in a polypoid form. The first symptoms that attract attention may be some functional disturbances in the neighboring organs, as occurred in a case of a friend of mine, a physician, who requested me to examine him for stone in the bladder, which he said he was sure he had; there was none found, and I then suggested an examination of the rectum, to ascertain the condition of the prostate, but instead of finding disease of this organ, an indurated patch in the anterior wall of the bowel was encountered; the patient died a few months later with scirrhus. As the disease advances, destructive and wide-spread ulceration occurs, often attended with hæmorrhage, and profuse discharges of an ichorous character and peculiar odor. These foul-smelling secretions must not be confounded with those that are sometimes associated with certain chronic ulcerations, which, besides the foul-smelling discharge, may also present the indurated margins regarded as characteristic of malignant degeneration. Cancer now and then invades the rectum from the adjoining parts, as was observed by me in the case of a lady with a scirrhous uterus; the recto-vaginal wall was destroyed in its upper segment, and through the aperture the cancerous growth projected into the bowel.

Fistula is recognized, when it presents an external opening, by passing a slender probe into the aperture along the entire course of the morbid channel to its termination. The orifice varies in position, and though usually found near the lateral margin of the anus, yet, at times it is far distant, as when it occurs on the buttocks, upper part of the thigh, over the sacrum, and still more rarely at other points. In a case that came under my care, in which the orifice was over the coccyx, a diagnosis of necrosis of that bone had previously been made. The injection of milk, or of some colored fluid has been suggested as a

means of locating the inner opening. This often presents itself as a circumscribed induration, whose centre is occupied by a depressible area, into which the tip of the finger sinks, causing more or less pain, and developing fluctuation, that disappears under pressure, by reason of the pus being expelled into the rectum; when the finger is withdrawn pus is seen smeared over its surface. With the finger in the bowel the point of a probe can often be felt when there is no aperture, if the intervening tissues are not too thick.

Fissure consists of an oval ulcer, which haunts the intervals between the cutaneo-mucous folds. It is usually located on the posterior segment of the periphery of the anus, but occasionally at other points. It is sometimes rather shallow and shelving, and at others presents deeper and steeper sides. When the anus is distended, the ulcer assumes an oval or rounded shape; the tension of the sphincter is increased, so that the introduction of the finger is attended with severe pain and is firmly grasped by the muscle. It is almost always accompanied with a small condylomatous outgrowth at its upper angle.

Hæmorrhoidal tumors are either external or internal. The former variety consists of the dilated veins of the sub-mucous tissue of the margin of the anus, and appears as soft, small, reddish, or reddish-blue, rounded growths, and numbering from one to three or more; they may be emptied of their blood by pressure between the fingers, but they resume their former fulness when the pressure is removed. Later, inflammatory changes may convert them into hard nodules. There is increased heat of the part during the inflammatory stage. Internal hæmorrhoids may also present themselves at the anus during a straining at stool, and occasionally at other times. The tumor is larger than in the former case, is dark red or violaceous, according to the degree of constriction exerted upon it by the sphincter; it is soft, compressible, and may be reduced.

Prolapsus ani appears as a dark red, soft tumor, of varying size, marked on its surface with circular folds, and at the apex with an oval or rounded slit, which admits the finger into the cavity of the bowel. It is circumscribed by a groove or fossa at its base, into which the finger may be inserted to a point where the mucous membrane, in passing from the tumor to be continuous with the anus, forms a cul-de-sac. Tumors similar in appearance, resulting from invagination, also present this groove, but without the cul-de-sac, so that the finger does not encounter any obstacle to whatever depth it may be thrust.

Polypus may appear as a tumor at the anus, and must be discriminated from hæmorrhoids, hypertrophy of the mucous membrane, and the vegetations that sometimes sprout from its surface, and from tumors by invagination. Polypus forms usually a globular tumor, sometimes lobed, and rarely botryoidal, soft to the touch, varying in size, of a reddish color, and its surface is covered with a mucous membrane, that is either granulated like a ripe strawberry, or bears ulcerated patches of varying extent; it bleeds easily when handled, and the finger may detect the constriction that forms its neck, and which attaches it to the intestinal wall a greater or less distance from the anus. The neck or pedicle is easily lacerable.

Congenital defects of the anus vary in their extent and character. Imper-

foration may depend upon the presence of a septum, located at any point from the orifice to five or seven centimetres up the rectum, or upon total absence of the bowel. In the former case, the finger encounters the obstruction, which, if thin, may be bulged downwards, as a globular projection, from the pressure of the intestinal secretions. On the other hand, when the septum is thick, or the rectum is absent, the finger is arrested by an unyielding mass of tissue whose thickness and the height it reaches in the bowel may be indicated by a catheter introduced into the vagina or bladder, between which and the finger placed in the anal orifice the obstructing tissues may be brought. It must not be forgotten that the sphincter may contract energetically when the rectum is absent. The termination of the rectum into any of the adjoining viscera, as the bladder, uterus, vagina, or urethra, must be ascertained by a careful physical examination of those organs.

The next step is to examine the sphincteric region, which, in general terms, may be said to embrace a space three centimetres in length, tubular in form, terminating above in the ampulla, either by a well-marked ridge, or imperceptibly according to the arrangement of the circular fibres, and below in the anal aperture. It has already been remarked that the lower half of this belt may be inspected by manipulating the anus with the fingers. To examine the upper part by palpation, the introduction of the finger is necessary; having previously pared the nail, lubricate the finger with cosmoline, and smear a little of the grease upon the anus, then gently press its point with a rotatory motion into the orifice, until the depth of the sphincteric zone is reached. Cautiously sweep its whole surface for evidences of diseases; a fissure may be readily detected by a sensitive finger, and morbid growths or stenosis, if present, may at once be determined. The projection of rigid folds or neoplasms must not be confounded with stricture, nor the occasional impaction of hardened feces, or an intestinal concretion (a case of which once came under my notice). In rare cases diverticula occur, into the narrow aperture of which the tip of the finger may pass, and convey the erroneous impression that a stricture is present.

For the inspection of this part, a speculum is necessary. The simplest one is the handle of a spoon, but a better one is that recommended by Colles, consisting of a single, polished, gutter-shaped blade, with rounded edges and a conical point, mounted upon a short handle, as shown in Fig. 1. This instrument causes no inconvenience by its introduction, and, by slowly sweeping it around, the entirety of the anus can be inspected in successive portions. The inner surface is smooth, plicated, and of a rosy color, in its usual condition, but when the sphincter is distended the folds are effaced. A circular white line is seen, which marks the point of transition of the cutaneous into the mucous membrane, as well as the interval between the two sphincter muscles.

In exploring the ampulla, the digital method is conducted in the manner described above, except that the finger is carried to its extreme reach. It is sometimes advantageous to employ two fingers instead of one, which entails little if any additional pain. I have often anticipated the digital examination by the injection of water or air into the rectum, for the purpose of dilating it and thereby effacing its folds. The walls, thus rendered smooth and arched, have some-

times presented a more favorable condition for the detection of ulceration and morbid growths, and for the examination of the osseous planes that bound the pelvic cavity. The diseases to be noted in this region are acute and chronic proctitis, internal hæmorrhoids, stricture, benign and malignant tumors, and foreign bodies that may have been swallowed, or introduced through the anus.

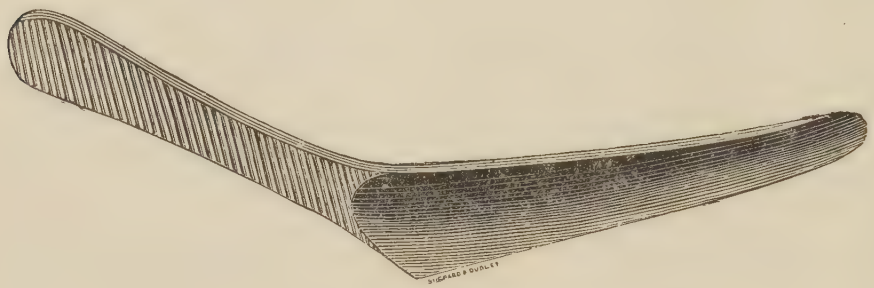

FIG. 1

Proctitis occurs in two forms, the acute and the chronic; and it is either primary or secondary. The acute form may be restricted to a limited extent of the bowel, or be diffused. It arises from cold, especially when the buttocks and hips are chilled by sitting on cold and damp objects; from the ingestion of indigestible food, foreign bodies, or drastic cathartics; from the influence of traumatic causes, including injuries of all sorts; the use of irritating clysters; the presence of foreign substances, worms, and hardened feces; the exhalation of noxious gases from latrines, particularly during the prevalence of dysentery; the gouty and rheumatic diatheses; and lastly, it is the frequent accompaniment of other diseases of the rectum. The chronic form may follow the acute, or it may exist primarily, as is most often the case when it is associated with other diseases. Proctitis is often complicated with disorders of the adjacent organs, caused by extension of the irritation to them, and hence the dysury, retention, vaginismus, and priapism that often occur in connection with it.

The disease begins by the patient experiencing a sense of distress and weight in the recto-perineal region, which settles later into a positive and often severe pain, radiating to the sacrum, bladder, and down the thighs; tenesmus is always present, and the discharges continue to lose their fecal character until little else than a blood-stained mucus is passed. In mild cases, there is only a burning sensation at the anus, with the characteristic tenesmus.

Palpation causes intense pain, and excites energetic contraction of the sphincter and perineal muscles; the rectum feels hot and swollen; and when the finger is withdrawn its surface is smeared with mucus streaked with blood. Inspection shows the mucous membrane to be dull red and œdematous, with swollen veins coursing over its surface; the papillæ are more or less hypertrophied, and the solitary glands scattered over the rectal folds are swollen into small rounded projections. There is deficient secretion in the early stage; but later, it becomes profuse and purulent, and excoriates the skin; in this case, the anus is swollen and œdematous, and its contractile power much

impaired, so that the mucous folds often prolapse, and the secretions escape exteriorly.

The disease terminates either by resolution, in which case there is often a sudden discharge of blood, or it may continue to extend up the colon, causing wide-spread destruction of the mucous membrane and the subjacent connective tissue. The resulting ulceration may cause perforation, or, after partial reparation, consecutive formation of stricture; or the inflammation passes into the chronic form, in which the pains grow less severe and assume more of a dragging character, and there is a constant discharge of pus, either pure, or mingled with fecal matter.

Stricture of the rectum, when within the reach of the finger, can be determined with precision. It may be classified under four headings: 1st, the simple; 2d, the specific; 3d, the malignant; and 4th, the congenital. The causes are ordinary inflammation, as seen in dysentery, venereal diseases, malignant growths, and congenital defects.

From mere inspection, no information can be obtained, as to the existence of stricture; while, on the other hand, palpation furnishes the only certain evidence. The obstruction may occur at any point of the rectum, but in dysenteric and malignant cases, it will usually be found higher than in the congenital and venereal. In width, the stricture varies from a millimetre or so to several centimetres; and its depth, from the slight projection of a narrow fold to that of one occupying the entire diameter of the bowel. It may assume the form of a crescent, a diaphragm, or a tubular narrowing, and is sometimes irregular and nodulated.

As the disease progresses, the part above the stricture becomes sacculated and the seat of extensive ulceration; and in some cases the part below suffers similar alterations. The evacuations, which at first were fecal and altered, perhaps, in their size and form, now become fluid and more or less mingled with blood, mucus, or pus. The abdomen enlarges from the distention of accumulated gaseous and fecal secretions, and various secondary changes take place at the anus, as fistula, hæmorrhoids, and abscess. There is simultaneous disturbance in the functions of the adjacent organs by sympathy, and in extreme cases the sphincter becomes paretic and swollen, so that the intestinal contents escape involuntarily.

Foreign bodies gain admission to the rectum in several ways—by the mouth, by being thrust from the exterior, or by working through ulcerated openings from adjacent cavities. The objects passing through the alimentary canal that are likely to be arrested in the ampulla, are fragments of bone, seeds, and substances accidentally swallowed, as artificial teeth. Those thrust into the anus are usually pieces of wood, small glass bottles, tumblers, goblets, iron wire, etc. It has happened that pessaries have ulcerated through the recto-vaginal wall into the rectum, as in cases recorded by Lisfranc and Desprey; and in one instance a pessary was thrust ignorantly into the rectum instead of the vagina.

Again, intestinal concretions and hardened feces may be the origin of symptoms of obstruction. Richerand was called to the case of a woman suffering from tenesmus, nausea, anorexia, and presenting emaciation; palpation revealed the

presence of a concretion to which all the symptoms were due. Peter relates the case of an infant dying in epileptic convulsions; the autopsy showed death to have resulted from a foreign body in the intestinal canal.

In old people, and in those who have suffered spinal injury, there may occur fecal accumulation in the ampulla from the impairment of its muscular contractility, which is readily detectable by the finger.

Rectal palpation is also an important means of ascertaining the condition of the surrounding pelvic viscera. It was in common use among the ancients for this purpose, as the well-known directions of Celsus for the diagnosis of vesical calculus clearly show. In the male, the prostate gland may be felt upon the anterior rectal wall as a firm oval body about the size of a large chestnut. Above this is the bladder, which, when full, presents itself as a soft fluctuating tumor, but when empty cannot be distinguished from the intestines which lie about it. The genito-urinary diseases that may be determined by rectal palpation are vesical and prostatic calculus, prostatitis, abscess, cysts, hypertrophy, atrophy, tuberculization, and morbid growths of the prostate gland.

In the female, the vagina and uterus correspond to the anterior rectal wall; the vagina conveys to the finger the sensation of a small tumor, moveable under pressure, while the uterus presents the os as a resisting, rounded swelling. When the uterus is retroverted or retroflexed, its fundus is felt as a globular tumor above the os. At the highest point, laterally, the ovaries and Fallopian tubes are reachable, especially when pressure is made over the hypogastric region so as to depress them in the pelvis. The various diseases of these organs arising from inflammation, abscess, or other morbid processes, may be ascertained in this manner. On the posterior wall of the rectum in both sexes, the finger ranges along the curve of the sacrum where scattered lymphatic glands are lodged in the connective tissue, whose condition it is important to ascertain in cases suspected to be cancerous.

The condition of the ampulla itself may suggest, or even positively indicate, morbid changes in these organs. Scanzoni states that in a great number of uterine diseases the inferior part of the rectum presents a dilated condition, and a laxity of its walls which often extends to the sphincter itself, so that the finger passes into the anus without pain. The same author records a case of vaginal rectocele in which a tumor the size of the fist appeared between the labia majora, and contained a mass of hardened feces. Nélaton and Dolbeau mention instances in which there were projections on the anterior rectal wall corresponding with cystic tumors in the recto-vaginal septum, which pressed upon the neck of the bladder and caused retention.

Depressed fractures of the sacrum and coccyx may invade the lumen of the rectum and may be ascertained with the finger.

Having completed the digital examination, if it be deemed necessary to inspect the ampulla, certain instruments known as specula may be employed. Their use dates back many centuries, and there may be seen in the Pompeian collection at Naples contrivances that would answer the purpose, and which are in nowise inferior to those figured in the works of Paré, or Scultetus, written less than four centuries ago. Rectal specula are exceedingly numerous, but not

markedly various in their construction; the essential object of all of them being to dilate the sphincter, and to separate the folds of the rectal mucous membrane, in order that sufficient light may gain admission into the bowel to illuminate its walls. Endeavors have been made to accomplish this aim, and at the same time to avoid as much as possible concealing the parts to be inspected with the blades of the instrument.

There are three principal groups into which all these instruments fall; in the one, are gathered those representing cylindrically or conically-shaped tubes, complete or variously fenestrated; in another, those consisting of two or more blades variously connected so as to open and close at will; and in the third, single blades of various forms. The earliest and simplest form of the tubular speculum was a common metallic cylinder, flared open at the proximal end, and polished upon its inner surface. This has undergone several modifications as regards its length, the shape of the distal end, and in the form and extent of the fenestrations in its walls.

The materials employed in the construction of such specula are usually metal or glass, and exceptionally, wood, ivory, hard rubber, or porcelain; their interior faces are polished or silvered, so as to secure a bright reflection. The area that can be inspected at any one instant is equal to the area of the distal end of the speculum, which the mucous membrane covers. To increase this area, it has been proposed to make the distal section oblique, so that the opening would be elliptical. This is the form preferred by Fergusson, Mollière, and others.

The method of inspection is simply to insert the instrument as far as desirable, when, by removing the plug, the mucous membrane, which covers and partially prolapses into its now open end, will become visible to the eye. The instrument is slowly withdrawn, so that by the time it emerges every point of the walls of the bowel will have come successively into view.

The difficulty of introducing the open-ended tubular specula is sought to be remedied by using a wooden plug, which projects beyond the tube in a conical point.

It was intended, in making lateral apertures of greater or less extent, and of a slit-like or elliptical shape, as shown in Fig. 2, to shun the necessity of removing the speculum in this manner.

FIG. 2.

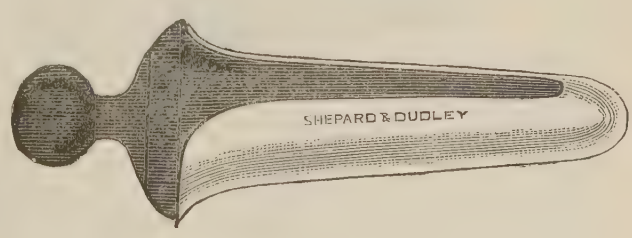

FIG. 3.

Though the instrument is usually fitted with a plug, as shown in Fig. 3, to

keep the mucous folds from engaging in the fenestrum until its introduction is complete, yet the finger will be found sufficient for the purpose. With this form also, the extent of surface that can be inspected at any one time is, of course, equal to the size of the opening, so that, to view the entire circumference of the rectal walls, the speculum must be rotated a complete circle. It has been suggested that the objection to this iustrument, which permits the mucous membrane to fall into the tube and to cut off the light, might be overcome by fitting a movable glass slide or window in the fenestrum, as shown in Fig. 4.

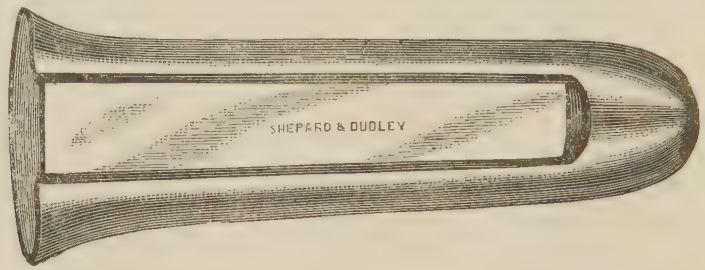

FIG. 4.

Sometimes the fenestrum is made to extend the length of the wall of the speculum, which is the one preferred by Ashton, and is usually designated by his name.

The second type includes those mechanical contrivances, which are furnished with arms or blades, variously connected and capable of expansion at will. They form when opened, as in the previous class, conical or cylindrical tubes, with fenestrated sides, of which the intervals vary in size and number according to the number of blades and the degree of their expansion. The mode of introducing the instrument is the same as in the former case, and when properly placed its blades may be opened to any desirable extent. The folds of mucous membrane, as in the tubular speculum, fall between the blades, but the fact, however, that with this instrument a much more extended surface is exposed to view, and the advantage in the way of easier manipulation, have brought this speculum into deserved esteem, so that in this country the cylindrical form is rarely used, or, at least, is restricted to special cases.

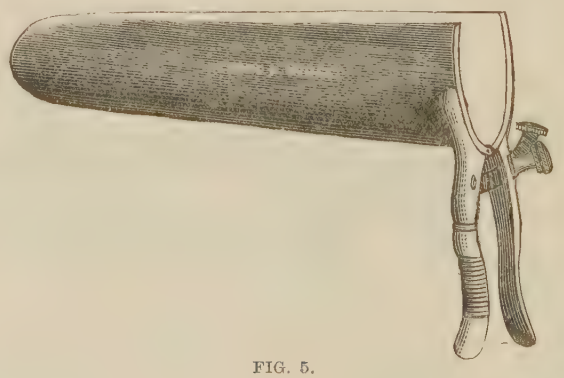

FIG. 5.

One of the earliest and simplest models of this class is the bivalve speculum, in which the blades are hinged together by their margins, as is shown in Fig. 5.

When opened, it displays a fenestrum the whole length of the instrument, which must be rotated to inspect the entire circuit of the bowel. The speculum in common use, however, is hinged at the base, and when expanded offers two fenestra. The hinge has either a fixed centre, causing the blades when open to form a cone, or the bases of the blades move upon a transverse bar, so that when the blades are open they assume a cylindrical form. The first kind is shown in Fig. 6. Other mechanical arrangements of the hinge have been re-

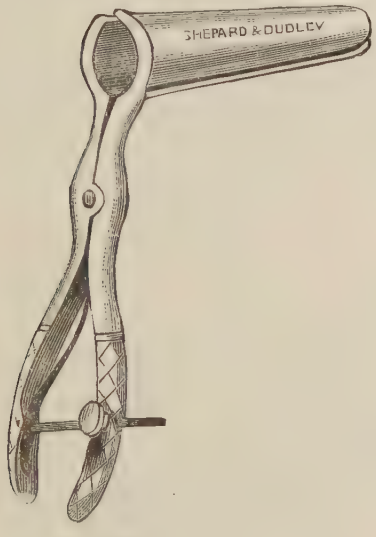

FIG. 6.

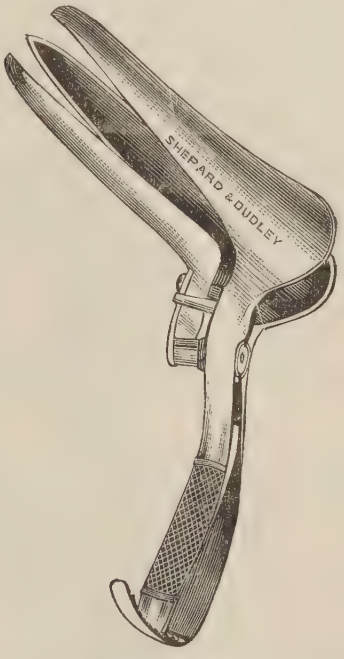

FIG. 7.

commended from time to time, with a view of enlarging the range of movement of the blades.

As folds of mucous membrane prolapse into the intervals of the blades of the bivalve speculum, and obstruct the view, a third blade has been introduced in certain of these instruments, as seen in Fig. 7, forming trivalve specula, which have undergone many unimportant modifications in the mechanism of the connection of the blades, and in other details of construction. A quadrivalve speculum has also been devised and commended by certain authors, Allingham among others. There are other special forms to which attention has been called, as those with trellised blades, or with blades, variously fenestrated, but they are more ingenious than useful. In the construction of certain specula, bent wire is used as recommended by Davy, which, by its spring, is self-retaining. The best form of this instrument is, however, the one devised by Sims, in which the wires are mounted on handles, as shown in Fig. 8.

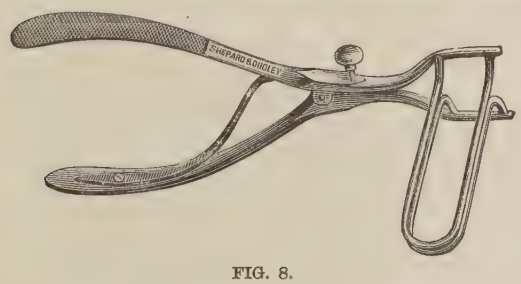

FIG. 8.

Among the special means of inspecting the rectum may be enumerated the method so successfully employed by Sims in uterine exploration, and the endoscope. In the former case, the patient is made to assume a position on his knees and elbows or chest, so that the pelvis is on a higher plane than the rest of the body; the weight of the viscera is thus transferred from the pelvis and perinæum, and distributed to the abdominal walls and diaphragm. When the speculum is inserted, air rushes into the rectum and dilates the ampulla into a dome-like space, the walls of which can then be readily and successfully examined. For the purpose of raising the sacral segment of the perinæum, I am in the habit of employing one of the blades of Sims' instrument mounted on a handle as seen in Fig. 9.

The endoscope has been too much neglected in the exploration of the condition of the rectal mucous membrane. There are certain cases of ulceration located high up in the canal, in which no other means are feasible. I have fre-

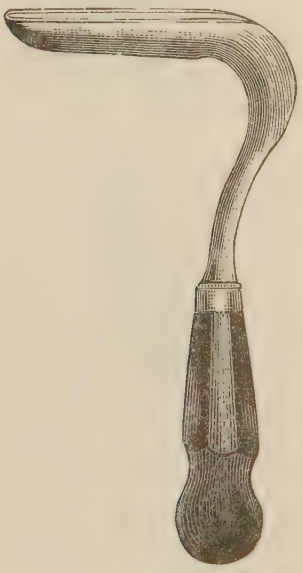

FIG. 9.

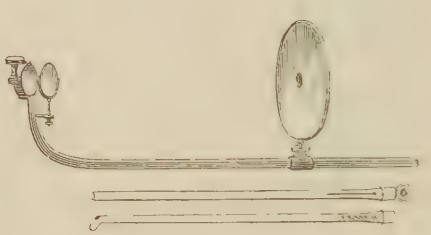

FIG. 10.

quently been enabled by this instrument, both to locate the diseased part, and to make direct application to it. The simplest endoscope is the one devised by me several years ago, which consists of a large concave mirror and a tube attached to a curved metallic bar, as is shown in Fig. 10.

With a knowledge of the anatomy of the rectal curves, and careful manipulation, a straight tube, fifteen millimetres in diameter, may generally be introduced to a depth of twenty-five centimetres, and the mucous membrane from this point downwards clearly seen by slowly withdrawing the tube. Any diseased section may then be directly medicated as desired with a brush fastened to a long handle and passed through the tube. I have recently treated in this way a number of patients with rectal ulceration and contraction resulting from attacks of chronic diarrhœa and dysentery, who have been much benefited.

The appearance of the normal mucous membrane, as seen at the extremity of the tube, is that of an umbilicated protuberance, smooth and of a rosy hue. The depression in the centre corresponds with the centre of the bowel, and while the tube is being gently withdrawn, the surface appears to be in motion from the circumference towards the centre.

In inflammation, the surface offers a strikingly different aspect; in chronic cases, for instance, it presents a deep red papillated condition, with prominent vessels at various points; sometimes the appearance is similar to that observed in pharyngitis sicca; that is to say, it is covered with minute papillæ, and the distortion of the epithelium covering them gives rise to a peculiar silvery shimmer; the membrane appears drier and thinner than normal, and at points arterial trunks are plainly apparent. There is, as connected with this condition, more or less condensation and contraction of the sub-mucous connective tissues of variable extent. The bowels are persistently deranged; sometimes there is diarrhœa, at others constipation, especially when the patient has been exposed to cold or dampness. This form of disease I have observed in several cases, most of which were females.

In using the endoscope, the lateral position is as convenient as any other; the thighs should be drawn up with the buttocks resting on the edge of the table; a lamp or other source of artificial light is so placed that it may be reflected by the mirror in the desired direction.

Efforts have been made to draw the mucous tunic to the exterior for inspection. This may be partially done by introducing an india-rubber sac and inflating it largely, and then suddenly withdrawing it so as to evert the membrane. Storer has effected the same result with the fingers introduced into the vagina, pressing it backwards and downwards over the sphincter ani; the rectum may thus be everted through the sphincter like the finger of a glove. This can ordinarily be done to a very great degree; and it can always be done to a certain extent. Should the sphincter be unusually irritable, and contract with violence when touched from below or above, it may be forcibly distended by the thumbs, and temporarily ruptured, as he has been in the habit of doing in such cases; the procedure above indicated then becomes easy. He says: "We can in this manner ascertain the presence of a chancre or chancroid, the character of polypi, the extent and number of internal hæmorrhoids, the position of the inner orifice in fistula, etc., with far greater certainty and alacrity than by the speculum, or can be done in the male, while the mere eversion process, provided rupture of the sphincter is not necessary, is attended by very little pain."

These procedures are more or less painful, totally inefficient for exposing the upper part of the rectum, and for other obvious reasons inapplicable in the great majority of cases.

Up to a comparatively recent period, the range of rectal palpation was restricted to such exploration as could be made with one or more fingers. Von Nussbaum first, in 1865, and Maunder, in 1868, demonstrated the practicability of introducing the whole hand into the rectum; still, the credit of showing its practical value in diagnosis is due to Simon, of Heidelberg, who, in 1872, published the results of his experience. Since that period much light has been

thrown on the subject, yet much still remains to be done in the way of experiment and observation to enable us to justly appreciate its advantages, and to fully estimate its dangers.

It will be shown that the gravity of the procedure depends upon the depth to which the hand is thrust in making the examination, or, to state the case more correctly, whether its broadest part is simply carried up to the point where the peritonæum is reflected upon the rectum, or is pushed beyond this. Of course, the size of the hand will also come in as an element of danger when it exceeds certain dimensions, say twenty-five centimetres in its greatest circumference. Inside of this measurement, those cases that can be brought within the scope of this method are examinable.

Simon says that there is only room in the lower part of the rectum for the hand; in its upper part, and in the sigmoid flexure, two, seldom four, fingers may be introduced. On account of the mobility of this higher segment of the intestinal canal, however, he has been enabled to reach two or three centimetres above the umbilicus, but never to the ensiform cartilage. He performed experiments upon the male cadaver to ascertain the distance to which the hand could be thrust without rupturing the tissues of the bowel, and found, in one case, that, without exerting any force, four fingers could be introduced into the upper part of the sigmoid flexure. However, by using a certain degree of force, his hand, twenty centimetres in circumference, could be pressed to a greater depth, so that the ensiform cartilage might be touched; inspection showed that under these circumstances all three tunics were torn through at several places. The same experiment was tried on a female cadaver with a similar result.

The rectums of several cadavers were also removed, slit open and spread out with a strain just within the rupturing range. He then found that the width of the gut, at 14 to 15 centimetres from the anus, was from 20 to 25 centimetres; at the part where the meso-rectum begins, it decreased to 14 or 15 centimetres, and he therefore concluded that, as small and middle-sized hands ranged from 20 to 25 centimetres, any attempt to pass above this point must rupture the bowel.

By following this rule in twenty-five or thirty cases of manual palpation in the living subject, no trouble resulted, not even incontinence, but simply a sluggishness of the sphincter enduring twenty-four hours. In those cases where rupture of the anus was unavoidable, he preferred to notch the margin at several points, and if this did not suffice, to make a median incision towards the coccyx, for the reason that incisions after careful suturing heal quicker than ruptures. Narrowing of the outlet of the pelvis is the only obstacle that precludes manual palpation, but the range of cases will diminish with the increase in the size of the hand.

Walsham confirmed these statements of Simon, after having performed a series of experiments upon twelve cadavers, and conducted the examination in four living subjects. The experiments were made with a hand 19½ centimetres at its widest part, and after the conclusion of the examination careful dissection was made in all cases. No rupture of the sphincter, or other disturbance of the

cellular or vascular connections of the rectum could be discerned; in the majority of cases, not even the integumentary folds immediately surrounding the anus were torn, although considerable force was used in many instances. In one case, the abdomen was open and the hand was seen occupying the sigmoid flexure, and, by a little manipulation with the other hand it was passed into the lower part of the descending colon without rupturing the peritonæum. In three other experiments, it was arrested a little above the junction of the upper with the middle third of the rectum, by a narrowing of the gut, where the peritonæum is reflected from the walls of the pelvis to the bowel. In five cases, the hand was introduced beyond the junction of the upper with the middle third. In the remaining cases, the gut became suddenly smaller where it receives its complete covering of peritonæum, and the hand could not be passed further without considerable force, and with rupture of the peritoneal coat of the gut. The highest point he was enabled to reach was the lower end of the kidney and the cartilage of the last rib, but the movability of the bowel admitted of every part above the brim of the pelvis being examined.

In the following cases the examination was conducted on living subjects, and the results do not show that rectal surgery has, as yet, gained largely by the introduction of the manual method of palpation :

1st case (Walsham). A large powerful man, suspected of having a stone in the kidney, or some tuberculous affection of the genito-urinary mucous membrane. The hand was carried into the sigmoid flexure ; operation lasted twenty minutes; patient under chloroform. There was no incontinence of feces, no rupture of the sphincter or integumentary folds around the anus ; there was only a feeling of slight soreness about the anus a few hours after the operation. The diagnosis was negative. The man was discharged from the hospital.

2d case (Walsham). A woman suspected to have intestinal obstruction; chloroform given. In reaching the upper part of the gut the hand was arrested by a slight contraction in front of the peritoneal reflection, through which the fingers only could be passed. No inconvenience resulted; the diagnosis failed. The woman died twelve days later, and at the post-mortem examination a small epitheliomatous stricture was found in the upper part of the sigmoid flexure.

3d case (Walsham). A woman suffering from intestinal obstruction of a doubtful nature. Hand passed into the sigmoid flexure, as the arm nearly up to the elbow was within the sphincter. No bad effects followed this operation, although the hand was withdrawn and reintroduced several times; the sphincter was not ruptured, and there was no incontinence. She died eleven days after, but no post mortem was obtained. Diagnosis negative; though the reporter of the case remarks that he "could safely affirm that in this patient no stricture of the rectum or sigmoid flexure existed."

4th case (Walsham). Suspected to be stricture. The hand was prevented by the narrowing of the upper part of the rectum from reaching far enough, and no stricture could be discerned. A slight thickening, however, of what seemed to be a neighboring part of the intestinal wall was detected by the hand, though no opinion could be given of its nature. No rupture of the sphincter. Patient

much exhausted before the operation; died the same evening; and at the post mortem a small stricture near the commencement of the sigmoid flexure was discovered. Before the parts were disturbed, an effort was made to reach the stricture by a force nearly sufficient to rupture the gut, but without avail, by reason of the narrowing at the point of reflection of the peritonæum, the fingers being fully six inches from the disease. The thickening felt was the stricture, which had come within reach by reason of the sinking of the sigmoid flexure into the pelvis.

5th case (Dandridge). A man with obscure disease of the abdomen; hand (21 centimetres in circumference) was carried only far enough into the rectum to reach, with the tips of the fingers, the bifurcation of the aorta. Diagnosis not made. The man died ten days later. Autopsy: peritonitis; caries of the 4th and 5th lumbar and upper sacral vertebræ, over which there was an abscess that had reached the groin; rent five centimetres long in anterior wall of the rectum, of peritoneal coat only, thirteen centimetres from the anus; two large abscesses in the lateral and posterior wall of the rectum at the level of rent.

6th case (Dandridge). Aneurism of cœliac axis; pulsation could be felt by hand in the rectum. Death twenty hours later. No rent in the bowel; the aneurism was ruptured; blood effused behind the peritoneum; there were reasons to suppose it had occurred some time before the operation.

7th case (Dandridge). A man suspected of renal tumor. There were symptoms of slight peritonitis, which, however, disappeared, and the man died some time afterwards from the original disease. At the autopsy there was no evidence of any damage to the bowel; if there had been, it had entirely disappeared.

8th case (Dandridge). A woman twenty years of age. She complained of an ill-defined fullness and enlargement of the left iliac fossa, and, to determine the character and locality of this, the examination was instituted. The results proved that the fossa was normal, and the condition suspected from the external manipulation did not exist. In about a day there was slight incontinence of feces; this passed away, and no bad symptoms of any kind followed.

9th case (Wales). Woman; intussusception. Hand (23 centimetres) was passed into the rectum, and arrested at the peritoneal reflection, so that the fingers entered only the sigmoid flexure. Diagnosis not made by this means; no rupture of sphincter; death same day; no autopsy.

10th case (Wales). Man; suspected stricture. Introduced hand (23 centimetres) thirty-seven centimetres. Diagnosis negative; no rupture of sphincter; slight incontinence, lasting three or four days; case passed from under observation.

11th case (Weir). A woman; obstruction of bowels. The hand (23½ centimetres) could not be carried beyond the upper rectal pouch. Diagnosis not made; death twenty-four hours afterwards; autopsy revealed cancerous disease of the flexure of the colon, so slightly perceptible externally as scarcely to be recognized; no injury done to the rectum by manual exploration. The point of obstruction was fifty-eight centimetres from the anus.

12th case (Leale). The hand (20 centimetres in circumference) was intro-

duced 40½ centimetres with safety, so that the inferior margin of the liver was recognized, and the fingers could be felt four inches above the umbilicus.

13th case (Sabine). The hand (19 centimetres in circumference) penetrated to a depth of twenty-eight centimetres, to examine a renal tumor. The patient died four days later, and the autopsy revealed ecchymoses on the anterior wall of the upper third of the rectum, which had resulted from slight lacerations of the muscular coat; the peritoneal and mucous layers were intact.

14th case (Sands). The hand (less than 19 centimetres) had penetrated to a distance of thirty centimetres, the forearm appearing too large to pass any further into the anus. There was a laceration of the muscular coat twenty centimetres from the anus, while the other coats remained undamaged.

15th case (Weir). The highest point reached was 28 centimetres (hand 19 centimetres); both the muscular and peritoneal layers were ruptured.

16th case (Briddon). An instance in which the introduction of the hand caused the rupture of a splenic tumor, followed by extravasation and death; the size of the hand and the depth to which introduced are not mentioned.

17th case (Maunder). A young woman with atresia vaginæ; it was important to determine the presence or absence of a uterus, as well as the possibility of reaching artificially that organ in the course of the vagina. The hand, size not stated, was introduced into the rectum. The absence of the uterus was determined, and, with the left hand in the rectum and the right hand upon the anterior wall, the pelvis was explored with facility. The sphincter was slightly ruptured.

18th case (Maunder). An old woman, seventy years. Complete intestinal obstruction. Diagnosis completed.

19th case (Batteson). Woman, 33 years old; intestinal obstruction; hand (size not stated) passed to the sigmoid flexure. Stricture was felt, and two fingers (medius and ring) passed through it. On these, as a guide, the œsophageal tube was passed, and a large injection administered, which brought away a large amount of feces. Death three hours later. Autopsy: a pint of fluid was found in the peritoneal cavity, most of which had probably escaped from the bowel, through an ulcerated aperture seated at the stricture. The small intestines were much distended, the larger ones empty, and both were much congested.

20th case (Heslop). A young woman; intestinal obstruction. Heslop observes that this case resulted as case 10, and there was shown at the autopsy, in addition to the changes noted, *laceration of the rectal walls.*

From the above showing it will appear that the hand can be introduced much more easily, and with less damage to the soft parts, in the cadaver than in the living subject. In the twelve cases mentioned the hand was stated to have been carried once only into the descending colon, as observed by direct inspection. In the majority of the remaining cases it was arrested at the point of peritoneal reflection, and could not be advanced further without tearing the surrounding tissues. The highest point reached was the lower end of the kidney and the cartilage of the last rib.

Of the twenty living subjects noted above, in which the manœuvre was executed, the depth to which the hand was thrust is not stated in five cases; in the remaining fifteen it was arrested at the peritoneal reflexion in six, and in nine this point was passed, in one to a depth of forty and a half centimetres. In five of the nine cases the bowel was either lacerated, or tumors that happened to exist were ruptured. The diagnostic result of the examination in five cases of the twenty is not stated; in the remaining fifteen the diagnosis was negative in eight, failed altogether in four, and was clearly made out in three.

The patient should always be placed under the full influence of an anæsthetic, and the insertion of the hand accomplished with extreme caution and deliberation. The best position for the patient is on the side; the hand ought not to exceed in circumference twenty-five centimetres at its widest part, nor, in other than exceptional cases, be thrust deeper than the point where the narrow part of the gut, at the level of the reflected fold of the peritonæum, will correspond with the knuckles, a distance of about fourteen centimetres from the anus. This may be called the limit of safety, although it has been considerably exceeded, as shown above, with impunity, while, on the other hand, severe injury, and even death has resulted at and even within this limit.

The danger arises from laceration of the intestinal walls and the peritoneal fold, from rupture of the hæmorrhoidal, vesical, and uterine arteries, and occasionally from severe shock. The operator will have to decide, in each individual case, the extent to which the exploration may be safely carried. When the hand reaches the narrow part of the gut, and the resistance cannot be overcome with gentle pressure, he should desist; the sensation of resistance is different from that of muscular contraction, which the fingers feel in the living subject as the hand forces its way along the bowel.

It must not be overlooked that in this manœuvre keeping in the right track is sometimes a task of exceedingly difficult execution, from the folds of the bowels entangling the fingers, and even when the way has been successfully threaded to the highest point, the fingers are so constrained by the grasp of the muscular tube that surrounding objects cannot be clasped between them, but only their surfaces can be passed over and pressed upon to determine their nature. In children the narrowness of the pelvic outlet restricts palpation to the use of one, or, at most, two fingers. In some cases of adults the outlet is also so narrow that the hand cannot be passed. Women furnish the most favorable conditions for exploration.

In morbid conditions of the rectum and sigmoid flexure recourse may be sometimes advantageously had to certain instrumental aid. Bougies are chiefly used as explorers, but there are numerous special contrivances designed with this view. Sir Charles Bell devised an explorer, consisting of an ivory ball mounted upon a brass rod, which, although occasionally met with in the shops, is but rarely used. Allingham employs vulcanite balls of different sizes, fastened on pewter stems with flattened handles. Others have recourse to slender and flexible rods of whalebone, tipped with globular, conical, or olivary points of ivory, caoutchouc or other similar hard and polished substances. Handled with skill, the rubber rectal bougie, devised by myself several years ago, furnishes

all the information that can possibly be obtained by an explorer, and at the same time is the least likely to inflict any damage, or to mislead the operator by catching at the sacro-vertebral promotory, or in the folds of the mucous membrane.

The depth to which a bougie may be introduced varies in different cases. O'Beirne entertained the belief that it never passed beyond the sigmoid flexure. Rilliet considered that he had furnished experimental proof of this from his observations upon the cadavers of children.* Cadge made similar experiments, and concluded that the bougie never penetrates into the descending colon.† Simon accorded with these statements fully, after thorough examination of the subject.‡ Wachmuth, on the other hand, claimed to have been able in some cases to reach a depth of 166 or 196 centimetres. Storer reported cases in which he believed he had reached the cœcum, after five feet (151 centimetres) of a bougie had passed into the anus. I have rarely failed to pass it through the sigmoid flexure to near the termination of the descending colon, and, on the cadaver, have often demonstrated the practicability of penetrating beyond this point. The difficulty arises from the meso-colon fastening the lower end of the descending colon almost immovably in the lumbar region, while the sigmoid flexure from this point curves sharply to the right before plunging into the pelvis. When the bougie attains a depth of forty centimetres its point can be felt in the neighborhood of the umbilicus (especially if the flexure, as sometimes happens, is unusually long and mobile), far away from the locality where the flexure merges into the descending colon. The bougie has, in fact, stretched the sigmoid curve upwards and to the right, thus rendering the angle it makes with the colon sharper and altogether impassable. In order to arrive at this angle with the bougie, it is necessary to depress its point into the left lumbar region by one hand applied externally to the abdomen, while using the other hand to propel the instrument.

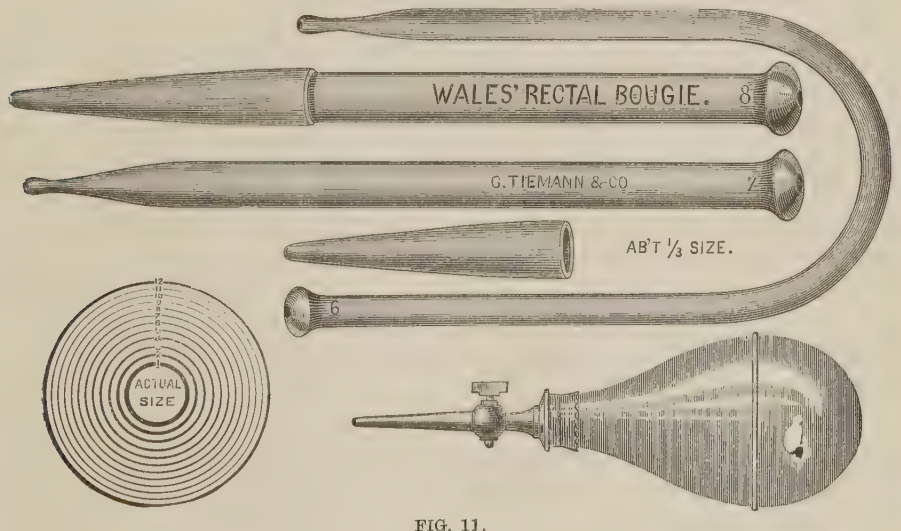

FIG. 11.

* *Gazette des Hopitaux*, 1852. †*British Med. Jour.*
‡*Virchow, Archiv.*, Bd. XXXIII., 1862.

In the use of bougies, much will depend upon the delicacy of the touch of the operator in obtaining trustworthy information; there is a peculiar sensation of resistance, for instance, experienced when it passes through an obstruction; while in being withdrawn, it slips as if released suddenly from the grasp of a constriction.

The elastic bougie may be converted into another instrument of considerable diagnostic value, as is shown in Fig. 11, by slipping a close-fitting hood of rubber, ten centimetres long, over its point, and securing it with a thread. The instrument thus prepared should be well coated with a stiff grease, as cosmoline, which I find answers better than sweet oil in facilitating the gliding of the instrument along the gut. When its point reaches as far as may be deemed necessary, a syringe is attached to its proximal end, and the rubber hood distended with water or air into a ball an inch or more in diameter. Gentle traction is then to be made, which will cause the ball to move slowly along the bowel, and, if no obstacle is present, the ball will soon emerge from the anus; while, on the contrary, it will be arrested by any narrowing or obstruction. Spasmodic contraction may have a like effect, but this can be easily distinguished from that of a permanent stricture by keeping up the traction a few moments, until the muscular spasm relaxes, when the ball will again slip along. In cases of organic narrowing, its amount can be approximately determined by maintaining traction upon the explorer, while the water flows out in a gentle stream, until the ball is reduced in size to the diameter of the stricture, when it will pass through. The height of the stricture may be determined at the same time, by deducting the length of the bougie projecting from the anus from its total length.

On one occasion I confirmed the indication of the bougie by noting the quantity of water the gut would hold before it overflowed the margin of the anus. Injections with the same object were long ago used by Amussat and Monroe, but are not now relied upon as a trustworthy guide in diagnosis, especially when the obstruction is located beyond the sigmoid flexure. The capacity of the intestine is influenced by several contingent circumstances, among which may be enumerated its varying degree of extensibility, the amount of intra-abdominal pressure, the quantity of gaseous and solid matter that may be present, and the position of the patient. In simple constriction the indication, for evident reasons, would be fallacious. Brunton has, however, given the following rule for the water test: "If 500 cubic centimetres of liquid can be injected, the obstruction cannot be lower than the upper end of the rectum; if 1,500 cubic centimetres can be injected, it cannot be lower than the upper end of the sigmoid flexure. In a case of occlusion of the ascending colon, four and a half litres were injected."

It may be necessary, in certain cases, to have recourse to anæsthetics during the physical examination of the rectum, especially in those painful conditions dependent upon ulceration and fissure. Columbat long since recommended the preliminary use of suppositories of opium and belladonna an hour or two before the examination. I am in the habit of using ether and the bromide of ethyl. The examination for the discovery of the disease, and the operation for its re-

lief, may often be simultaneously performed, thus dispensing with the inconvenience of administering the anæsthetic twice, and relieving the mind of timorous patients of the anxiety attending delay after the case has been fully made out.

It is important, before undertaking any operation, to inquire into the condition of the liver and kidneys, as chronic disease of these viscera must have an important influence upon the propriety of surgical interference, and the chances of subsequent recovery. Too much stress cannot be laid upon a thorough course of preliminary dieting, which should be strictly adhered to for some days subsequent to the operation. The food best adapted to these cases is milk, or light animal and vegetable soups, and total abstinence from alcoholic indulgence should be enforced.

Article II.—Sequels of Naso-Pharyngeal and Aural Catarrh, Illustrated by Cases from Private Practice.

By J. G. Carpenter, M.D., of Stanford, Ky. Read before the American Rhinological Association, at St. Louis, October, 1883.

It is difficult to get the general practitioner to attach much importance to diseases of the upper air passages. They consider them local, and not capable of producing constitutional manifestations, and will tell a patient his catarrh does not amount to much, it will never kill him; to take out-door exercise, eat nutritious food, and sleep eight hours out of every twenty-four, and then laugh at patients for having acquired great irritability, melancholia, or tinnitus aurium from having catarrh, and will jocularly remark: You are hysterical; or are malingering. What absurdity. How irrational are these remarks to an intelligent and honest sufferer, whose only desire and prayer are relief and cure. I know no more troublesome affection than naso-pharyngeal and aural catarrh to the patient. Catarrh was, a few years ago, considered incurable; but now the light is dawning, and cure after cure is being made, though it will take the profession at large many years yet to realize what catarrh is, its etiology, prophylaxis, the best therapeutic measures, and its sequels. The sequelæ of naso-pharyngeal catarrh are reflex cough, sneezing, stenosis of nasal cavities, ocular catarrh, asthenopia, aural catarrh, headache, either occipital or frontal; nasal polypi, tonsilitis, enlarged tonsils, patulency of Eustachian tubes; hæmorrhage from the throat, either the naso-pharynx, larynx, or trachea; laryngitis, tracheitis, bronchitis, and catarrhal phthisis; epistaxis, neuralgia, or numbness of the limbs or trunk; anæsthesia or hyperæsthesia of the skin, dyspepsia, hay fever, paresis of arm and forearm; irritability, melancholia, partial loss of memory or intellectual faculty, insomnia, frightful dreams, agoraphobia; hypertrophy of the anterior cervical, sub-maxillary, sub-lingual and post-cervical glands; vertigo, palpitation of heart, neurasthenia. It is quite common for a patient to have reflex cough, the sensation produced or point of irritation being apparently in the larynx, when it is in the naso-pharynx. Have had patients to sneeze from ten to twenty times in succession from introducing the speculum into the anterior nares, or meatus auditorius externus. Ocular catarrh and asthma often attend naso-pharyngeal

catarrh, and yield to treatment. Of the latter, frontal or occipital headache, irritability of temper, melancholia, partial loss of memory or the intellectual faculty, palpitation of the heart, attacks of asthma, insomnia and frightful dreams, one or more of these exist in naso-pharyngeal catarrh, and are only temporarily relieved by nervines or soporifics, unless special treatment is given the catarrh, when they permanently subside.

Naso-pharyngeal catarrh produces aural catarrh, with deafness and tinnitus aurium, and generally precedes by many months acute catarrh of the middle ear. It is held by some authors that tonsilitis and enlarged tonsils (especially Rumbold), are the sequence of chronic catarrh of the upper air passages, and my experience confirms this view fully. It often occurs to specialists of the nose, throat and ear, to meet with patients in whom œdema of the glottis, laryngitis, bronchitis and acute catarrhal phthisis, have had their origin in the naso-pharynx. Epistaxis, or hæmorrhage of the pharynx, larynx or trachea, has often been considered by the general practitioner to come from the lungs, when really the lungs are sound, and sufficient disease exists in the above regions to account for it, and could be readily ascertained if a laryngoscopic or rhinoscopic examination were made. Neuralgia in one or more regions of the body, anæsthesia or hyperæsthesia of the skin, dyspepsia, hay-fever, vertigo, and paresis of the arm and forearm, have yielded to treatment of the naso-pharyngeal catarrh; and partial aphonia has attended catarrh in some of my patients affected with severe naso-pharyngeal catarrh, and disappeared gradually as the catarrh improved.

June, 1877. A. H., age 8 years, blonde, has naso-pharyngeal catarrh, with hypertrophied tonsils and anterior and post-cervical glands, and frontal headache. Was treated every day for five days, every other day for two weeks, twice a week for three weeks, and once a week for three weeks. In two weeks from date of treatment the enlarged tonsils and cervical glands returned to normal size. Headache was a constant attendant of the naso-pharyngeal catarrh, and yielded to about twenty treatments. The case convalesced rapidly. In six months not a vestige of disease could be found. Six years have elapsed since treatment, and the patient has been free from disease all the time. The sequels in this case were enlarged tonsils, anterior and post-cervical glands, and headache.

Helen S., age 10 years, has had naso-pharyngeal catarrh two years, and had Eustachian catarrh with deafness to follow the former. Is a blonde, has good family history, has reflex cough, enlarged tonsils, and recurrent earache and frontal headache. In damp weather has asthma, and D. A. H., 12 inches; S. A. H., 24 inches. Tuning-fork is heard best in right ear; the right membrana tympani is slightly opaque and without polish. Patient was treated every day for seven days, every other day for two weeks, twice a week for three weeks, and once a week for four weeks. The Eustachian tubes were inflated with Rumbold's warm spray producer. I do not like it as a spray producer, but as an inflater of the middle ear it has no superior. It has in every respect accomplished as much in my hands as the Politzer or Gruber methods, and in a shorter time. This instrument warms and compresses the air, also medicates it

if you desire it. (Fig.) Hearing is 48-48 in each ear. Right membrana tympani normal. The headache, enlarged tonsils, hoarseness, asthma and cough subsided in about two weeks after patient began treatment. At the end of six

months no sign of disease was present. It has now been eighteen months since the patient was dismissed, and the disease has not returned.

1881. Mr. L., age about 40 years, good family history, has naso-pharyngeal catarrh, with reflex cough, dyspepsia, and has had one or two attacks of hæmorrhage from the throat. He was treated for his catarrh every day for ten days, then every other day for two weeks, then twice a week for two weeks; the cough and dyspepsia ceased in two weeks. It has been eighteen months since treatment was discontinued, and no hæmorrhage of throat has returned. This patient was pronounced by several physicians in the first stage of consumption, though his lungs were sound. There was sufficient disease in the throat to account for all the hæmorrhage.

Mrs. C., age 55 years, has naso-pharyngeal catarrh; has had two hæmorrhages from the throat; the lungs are sound, but she was pronounced by several doctors to have phthisis. Strange to say, the lungs were not examined in either case, neither was a laryngoscopic nor rhinoscopic examination made.

It has been verified time and again that nasal polypi will disappear while treating a naso-pharyngeal catarrh, without any special treatment being given them.

Mr. T., age 25 years, has naso-pharyngeal catarrh and aural catarrh, with tinnitus aurium and deafness, acquired irritability of temper, melancholia,

partial loss of memory, inability to think any length of time on one subject; has either frontal or occipital headache all the time; has insomnia, agoraphobia and anæsthesia of the skin; has ocular catarrh and asthenopia and neuralgia in different parts of the body. Tuning-fork heard best in left ear; drumheads slightly opaque and without polish. Hearing S. A., 6 inches; D. A., 18 inches. This is a case of extreme neuræsthesia. Patient has been, on account of the above conditions, tempted to commit suicide. December 1st, 1882, patient began treatment by being treated for fifteen days, then every other day for three weeks, then twice a week for four weeks, then once a week for eight weeks (Rumbold's method). The Eustachian tubes were inflated with Rumbold's warm spray producer or inflater. In connection with the above treatment, about thirty séances of electricity were given, though he did not begin it for a month after the catarrh treatment was begun. The above sequels improved or subsided *pari passu* as the catarrh improved. In May, 1883, the treatment of catarrh was discontinued. Patient considers himself well, though he will not be for at least a year yet. It will take the lining membrane thus long to return to its natural state, and patient should take a few treatments this fall or next spring.

May, 1883. Mrs. L. has naso-pharyngeal catarrh, attended with asthma, rontal or occipital headache, acquired irritability of temper, mental depression, and reflex cough; was treated every day for seven days, then every other day for three weeks, then twice a week for three weeks, then once a week for four weeks. The asthma, cough, headache and mental affections subsided *pari passu* as the catarrh improved. Patient had asthma several times a week before being treated, and now, September 15th, considers herself well, and has had only one slight attack of asthma. This occurred a week after treatment began, and then she was caught in the rain, and her clothes saturated with water before arriving home.

One patient had had naso-pharyngeal catarrh fourteen years, had lost the sense of taste and smell both, and had complete anæsthesia of the naso-pharynx. The sense of taste returned shortly after treatment began; the sense of smell and anæsthesia returned after many weeks' treatment. Mrs. N. has naso-pharyngeal catarrh, neuralgia and paresis of the left arm and forearm. Treatment was directed entirely to the catarrh, and as the latter improved so did the arm and forearm, though nothing was done to it, not even massage was resorted to.

S. W. G., age 61 years, has had for some time naso-pharyngeal and Eustachian catarrh, with tinnitus aurium, and deafness and dyspepsia. He was treated six months by a general practitioner for dyspepsia and torpid liver, though there was tickling and excessive secretions of mucus, or muco-pus, in the throat, and hawking and sneezing. The latter would occur from five to ten times in succession several times a day. There was also a partial loss of memory, impairment of the intellectual faculties, inability to think consecutively on one subject for any length of time; also inability to add correctly a few easy columns of figures, though patient was a fine business man. This physician told him all his ailment came from the *dyspepsia* and *torpid liver*. Treated him every day for seven days, then every other day for two weeks, then twice a week, then once a week

for four weeks. Rumbold's warm spray producer or inflater was used for the deafness and aural catarrh. I did nothing for his dyspepsia, only treated his naso-pharyngeal and aural catarrh. At the end of treatment his hearing was 48-48 in both ears. When treatment was begun, audition was in D. A., 6 inches; in S. A., 19 inches; all his ailments just enumerated had disappeared, and patient considers himself well, though the lining of nose and throat has not returned entirely to its natural state.

It seems incredible that a general practitioner would make such mistakes as have been presented in this paper. It shows plainly that they know very little about diseases of the nose, throat and ear, and are the first men in the profession to tell patients their complaints are all a myth, it will not kill them; or they are hysterical; and are certain to tell a patient to keep out of reach of the specialist, as the latter would probably do you an injury, and, besides, charge a large bill.

May, 1881. Mrs. C. has had chronic naso-pharyngeal catarrh; had a sub-acute attack, which resulted in patulency of the Eustachian tubes, and autophony with bulging of the membrana tympani of left ear. About ten treatments were given the catarrh. The first three treatments would close the orifice of the Eustachian tube a few hours, when it would return; after the fourth treatment the patulency, bulging of the drumhead and autophony never returned. Patient took six more treatments; considered herself well. "Patient remarks she swallowed her words or voice in talking, and that her voice went to her left ear." On inflation of the Eustachian tube, the drumhead would be seen to bulge, and a hissing, clicking, or crepitant sound would be heard with the aural diagnostic tube. Polizter method was used.

Mr. J. G., age 58 years, has naso-pharyngeal catarrh with patulency of the left Eustachian tube, and autophony and deafness in both ears; hearing D. A., 12 inches; S. A. E. of H. The clicking or crepitant sound was heard with the auscultating tube, and flattening and bulging of the drumhead seen auroscopically on inflation. Treatment was directed to the catarrh. The patulency and autophony subsided after second application. Hearing improved 24-48 in right ear; 19-48 in left ear.

October, 1882. Professor N. has naso-pharyngeal and aural catarrh, deafness and tinnitus aurium in both ears. Hearing in left ear 18 inches, in right one, watch on contact. Has patulency of right Eustachian tube, and autophony; drumhead bulging on auroscopic examination. On auscultation, the peculiar noise in the middle ear is heard during inflation. A few treatments to the naso-pharynx and inflation of the ears with Rumbold's instrument soon relieved the patulency and deafness. Rumbold is the only author who has described patency of the Eustachian tubes, and I have only seen a few cases in my practice.

J. B., age 10 years, has naso-pharyngeal and aural catarrh and perforation of left drum-head and deafness; has also catarrhal conjunctivitis. The treatment was directed to the nose, throat and ears. Nothing was done for the eyes except cleansing in salt in water. As the naso-pharyngeal catarrh improved, so did the eye affection.

James S., age 7 years, has had for some time naso-pharyngeal catarrh and

catarrhal conjunctivitis. The nose and throat received special attention. The eyes were kept clean with salt in water. As the naso-pharyngeal catarrh improved, so did the eye affection.

James S., age 7 years, has naso-pharyngeal catarrh and catarrhal conjunctivitis. The nose and throat received special attention; the eyes were kept cleansed with salt in water. Improvement and cure of the eyes followed the improvement of naso-pharyngeal catarrh.

Mr. S. S. has had catarrh of nose and throat for about six years, and aural catarrh in both ears for two years. Hearing, D. A., nil; S. A., 18-48. Drumheads opaque, and without polish; slightly flattened. The tuning-fork cannot even be heard in right ear; the tone conduction is entirely suspended. Twelve treatments of the naso-pharynx with Rumbold's inflater restored the hearing to normal in both ears; the hearing in left ear was normal after six treatments.

Mrs. S., age 40 years, has naso-pharyngeal disease, and has had reflex cough and vomiting one or more times a day for several days.

Mr. U., age 28 years, has catarrh of naso-pharynx, and trouble attending it, for several weeks. Reflex cough and vomiting several times a day. Both of these patients had the catarrh treated, and nothing done for the sequels. As the former improved the latter subsided entirely.

Other cases could be presented, but these just noted will be sufficient to prove the importance of thoroughly understanding diseases of the nose, throat, and ear; and the day has come for the general practitioner to know and treat these affections as well as to know how to treat a fever, an inflammation, or accouche a woman. The laryngoscope, rhinoscope, auroscope, and the acou-otoscope will enable the general practitioner to learn all about the diseases of the nose, throat and ears if he will only use diligence, be studious, and observe closely in practice.

A Dutch Poisoner.—A married woman, called Van der Linden, aged 45, mother of three children, is in custody at Leyden, on a charge of having murdered sixteen persons within the past few years. Nearly all the victims were members of her family, whose lives she had insured in burial and life insurance companies, without their consent, with the intention of poisoning them, and receiving the money at their deaths. The crimes became known under the following circumstances: A family named Frankhuyzen, at Leyden, lost on one day the mother and a child of eight months. The father was also taken ill, and removed to a hospital. In each case there were symptoms of poisoning, and the examination of the bodies proved this to be the fact. It was ascertained that Mrs. Van der Linden came into the house of her relatives, and put poison in milk which was being made hot on the fire. After the death of the woman and her child, it was remembered that, during the last two or three years, a number of the members of the family had died under the same circumstances, and the bodies of two other children which had been exhumed showed traces of poison. A cousin of Mrs. Van der Linden, a soldier, whom she tried to poison fifteen months ago, is very ill, and Frankhuyzen is in great danger. The accused has confessed her guilt. Her husband is innocent. The prisoner has herself lost five children, and it is presumed that they have all been poisoned.

RÉSUMÉ OF ORIGINAL ARTICLES

IN OTHER JOURNALS.

THE HUMAN TAIL.—Virchow, in 1879, made a full review of this subject, and considered that sacral trichosis, in which a large tuft of hair is found at the sacral region, related thereto; this is all that at most represents the tail in the anthropoid apes. Virchow describes, at length, a well authenticated instance of a child who had a tail coiled up and movable at will. Virchow believes that tails are of more common occurrence in certain little-studied races of men than is the common belief. Embryologists have failed to find anything except the *chorda dorsalis* and atrophied remnants of the medullary tube in the caudal appendage, which all human embryos have at a certain period, and which, as Spitzka (*Chicago Medical Review*, 1880, p. 365) has pointed out, is not bent forward in the median plane, but twisted in an oblique spiral toward the right side. Such "human tails" as Virchow was able to examine contained no true vertebral elements but a central cord representing the *chorda dorsalis*. Evidently biased by the popular notions on the subject Dr. C. C. Sprague, Kinderhook, Ill., reports (*Medical Brief*, January, 1884) the following somewhat imperfectly detailed case of a healthy-looking and well-developed female child with all its parts normal and natural, with the exception of an abnormal growth at the lower extremity of the spinal column, giving this the appearance of an extension into a regular caudal appendage, measuring in length three inches, in circumference about four inches at its thickest part near the end, flattened and band-like at and near its attachment to the body of the child. This superfluous mass, fibro-cartilaginous in texture, was developed upon the dorsal surface of the coccyx, with a limited supply of nerve and bloodvessels, and in consequence exhibiting a livid color and low state of vitality at the nether extremity, upon which an abraded surface existed, which readily took on gangrenous features. This was removed, but does not appear to have been subjected to histological examination.

ABSCESS OF THE NECK.—In corroboration of the views advanced by Dr. Lidell (*Amer. Jour. of the Med. Sc.*), Dr. B. G. Long (*Buffalo Med. and Surg. Jour.*, Feb., 1884) cites the following case: A twelve-year-old girl of sound health and good family history, attended school regularly until the afternoon of December 17, 1883, when, on account of stiffness and soreness of the back of her neck, she remained at home. Dr. Harrington had his attention called to the condition of her neck, but little was thought of it, as she was working about the house and only slightly inconvenienced. Three days later he was called to see her, and found her neck, and especially the back of it, enormously swollen. It was very tender to the touch, and she was suffering severe pain. Pulse 112; temperature 101°.

Poultice applied and anodyne administered. She grew rapidly worse. The swelling became more circumscribed and harder on the back of the neck. Dr. Long was called in consultation December 22, when a hypodermic needle was introduced into the tumor, but no pus found. Cerebral symptoms were very marked at this time, and an unfavorable prognosis was given. The only motor neurotic symptom was a deviation of the tongue to the right side when protruded. Death occurred December 24, at 1.30 P.M. Autopsy twenty-two hours after death. Body moderately well nourished; rigor mortis marked; very great hypostatic congestion of back; a denuded surface on nape of neck where a blister had been applied. Nothing but marked congestion was found down to the spinous processes. Bulging from between the laminæ of the second and third vertebræ, mostly on the right side, was a fluctuating tumor which contained about one and a half drachms of pus. On removing the arch of the second vertebra, the dura mater was found intact; opening into the sub-arachnoid space disclosed a very large amount of serous effusion, the result of meningitis, which was the immediate cause of death.

THERAPEUTIC MEANS OF AFFECTING LOCAL INFLAMMATORY PROCESSES.—Dr. C. B. Nancrede concludes (*Medical News*), as a result of his investigations on this subject: 1. During the stage of dilated arteries, with increased rapidity of the current, but little danger of capillary changes with exudation need be apprehended, and here perhaps ergot, certainly arterial sedatives, do good, either directly or indirectly, without blood-letting, by reducing the size and rapidity of the current, thus allowing the veins of the irritated area time to empty themselves, even of an unaccustomed amount of blood. Thus, if vascular-pressure changes have taken place, the vessels have an opportunity to return to the normal. 2. After stasis has occurred, or while it is occurring, weakening of the heart's action and a diminished volume of the current —*e. g.*, the effect of arterial sedatives—can do nothing but harm to the inflamed area, although it may prevent extension of inflammation in the circumjacent parts, which are merely in the earlier stages of congestion. 3. The results to be sought, and which are secured by local blood-letting, are removal of the blood on the venous side, so that the vessels cannot only empty themselves, but a certain amount of *vis-à-fronte—i.e.*, aspiration—is invoked; this secondarily results not only in a temporary return to the normal on the arterial side, but an increased rapidity (and here is an important point)—lessened force of the circulation. The acceleration of rate without the weakened force of the circulation would further damage the vessels, instead of which the increased rate of the current merely serves to sweep out the accumulated red-blood cells, the cause of the excess of oxygen, and the consequent cell-migration. The vehement current also induces a rapid resorption of the effused liquor sanguinis, at once the stimulator to growth, and the food of the cells. This latter advantage is not founded on theory alone, for

it is a matter of common observation that the mere amount of blood extracted produces no sensible effects on an inflamed breast, for instance, at first, but in a few hours, the skin, if carefully examined, has become wrinkled, and the organ shrunken. This effect is secondary to the loss of blood, and chiefly results from the absorption of the inflammatory exudate. 4. Arterial sedatives in the latter stages are usually inadmissible except as succedanea to blood-letting, as far as the focus of inflammation is concerned; the surrounding parts, which are merely congested, may be benefited by their exhibition. After blood-letting they act favorably, because, when the stasis has been overcome, they lessen intra-vascular pressure, and thus permit the blood-vessels to recover their normal condition. They also alleviate pain by lessening the bulk of blood in the part—*i.e.*, they relieve nerve pressure.

Belladonna as a Prophylactic Against Scarlatina.—Dr. Beates (*Medical and Surgical Reporter*) has attempted to revive this old hypothesis of Hahnemann in a plausible form. He says: "We are compelled to admit that pyrexia is dependent upon the removal of an inhibitory influence, which influence is pre eminently that of retarding, or rather controlling, chemical changes in the body that result in the production of caloric. Tscheschin has proven the existence of such a centre. Here looms up the great physiological fact that nutrition, and all that is implied by the term, depends entirely upon the integrity of the nervous system. If we call to mind the manifestations of disturbed and perverted nutrition in scarlatina, and interpret the phenomena of adenitis, gangrene, and sphacelation, so common in the malignant type in which, as it were, the nature of the poison is magnified, we cannot err in the conclusion that this disease is a manifestation of a grave depressing influence affecting the nervous system of organic life—*i. e.*, the sympathetic. When a sensory or afferent nerve is stimulated, a fall of temperature follows, as the influence affects some centre either in or above the pons. This law, enunciated by H. C. Wood, possesses an important bearing upon the treatment of the disease under consideration; for, if a depressing poison occasions the phenomena denominated scarlatina by influencing the sympathetic system, a remedy possessed of the power to stimulate this system should, when administered in proportion to the degree of intensity of the depressing cause, be capable of re-establishing functional equilibrium, and dissipating the disease. Within certain limits this is a fact. Hitzig has conclusively proven that a caloric centre is located in the first cerebral convolution, immediately behind the sulcus cruciatus. Wood has proven that destruction of this region is followed by an enormous increase of heat production, and that the stimulation of it results in marked diminution of calorifaction. Scarlatina poison in sufficient quantity to affect the vaso-motor system curtails the power of the inhibitory area of Hitzig; belladonna in same proportion stimulates it. From these facts it seems to be clearly proven

that when we endeavor to meet a depressing agent that affects the same tract by depression as belladonna does by stimulation, we possess the rational method of treating this direful disease. That concomitant conditions arise and demand special treatment need scarcely be mentioned; our judgment and skill must serve for this issue"

CHRONIC STRYCHNINE POISONING.—Dr. Kiernan (*Druggist*, February, 1884) says that researches on this subject have been comparatively few. Vulpian (*Comptes Rendus*), in 1870, was probably the first to experiment in this direction. In 1879 Spitzka (*Journal of Nervous and Mental Disease*, 1879) independently made systematic observation. The animals used were frogs, and the method adopted was as follows: A series of sixty-two frogs were placed in the same number of marked glass jars. A record was placed with each jar, and enough water being allowed each frog to moisten the under surface of his body, a drop, or several drops (according to the size of the animal) was added from a standard solution of strychnine acetate containing .001 gram to the drop of water. These experiments were performed in the winter in a chamber perfectly dark (except when records were read by candle-light). Most of the frogs died on the fourth day; some which escaped, after showing some effects of the strychnine, when recaptured seemed to have recovered from it; fifteen frogs survived till twentieth and thirtieth day, and nine survived for forty days and longer, one living sixty-seven days; one animal was in tetanus for 298 hours continuously. Spitzka finds that after eight weeks the frogs show symptoms of disease of the spinal cord. Dr. Kiernan has repeated the experiment of Dr. Spitzka, with ten frogs. Of these, two died in three days; one on the fifth day, and on the twentieth one surviving till the fiftieth day, and one till the seventieth. The last two animals showed marked symptoms of spinal cord disease. As strychnine is becoming somewhat a routine remedy in various nervous diseases, it is well to know that there is such a thing as chronic strychnine poisoning, and that the dangers of producing the same are by no means minimal. Therapeutically these experiments show that in the beginning of treatment the quantity of strychnine has occasionally to be increased, but that later it can be diminished and given at rare intervals to keep up the physiological effects.

DETENTIONS IN ASYLUMS.—Dr. R. L. Parsons (*New York Medical Journal*, January 26, 1884) concludes: 1. That, inasmuch as many recoveries take place in asylums, it is to be expected that some convalescent patients may at times be found in the wards. 2. That while possibly now and then a convalescent patient may be detained on probation an unnecessary period of time, such cases are not of frequent occurrence, nor important in their consequences when they do happen; and that, when they do occur, the detention is very rarely indeed through criminal intent. 3. That many harmless incurables are unnecessarily detained

in asylums for the insane ; that these incurables would be happier in the enjoyment of ordinary family life and associations, and that systematic efforts should be made to secure their enlargement and establishment under family care. 4. That under certain circumstances curable patients should be removed from asylum restraint while yet uncured. As Dr. R. L. Parsons was for many years superintendent of one of the largest American hospitals for the insane no one can accuse him of prejudice.

Treatment of Nightsweats of Phthisis.—Dr. J. R. Forrest states (*Lancet*) that no internal remedies have the power of checking the perspiration until the fever has subsided and the patient is exhausted. The following is a most efficacious lotion :

Sulphate of zinc	gr. iv.
Tincture of belladonnæ	ʒ j.
Water	℥ j.

The body to be sponged with the lotion at bedtime. It has proved serviceable in cases both of the incipient and advanced disease, the excessive sweating being often quite restrained after two nights' sponging. Quinlan suggests a trial of the hypodermic injection of atropine sulphate in doses ranging from 1-100th to 1-50th of a grain. The solution is best made with the laurel water of the Pharmacopœia, which completely dulls the local pain of the needle. It is well to begin with the smaller dose, for the larger one frequently causes dryness of the throat and temporary interference with vision. Some patients have required doses as large as 1-30th grain. The great merit of the treatment is that it does not interfere with the stomach, and if the mullein leaf boiled in milk be used to check the cough or phthisical diarrhœa, should they exist, the stomach is left free for nutritive purposes—an unmixed blessing to phthisical sufferers, whose stomachs are frequently hardly able for that office. Dr. E. Prideaux confirms Quinlan's experience, and usually gives the drug in pill form, beginning with 1-40th grain for an adult and 1-80th for a child. It loses effect from lengthened exhibition. In the case of a patient who took it nightly for two years he increased the dose after a long period to 1-30th, and ultimately to 1-25th of a grain. The formulæ are :

Sulphate of atropine	1-40 of a grain.
Hydrate of morphine	¼ of a grain.
Capsicum	1 grain.
Aloes pill with myrrh	3 grains.

but in cases where a tendency to diarrhœa exists substitute oxide of zinc, three grains, for the aloes pill with myrrh.

Reflex Phenomena Due to Nasal Disease.—Dr. Louis Elsberg (*Archives of Laryngology*) called attention to the fact that serious reflex phenomena might be excited by nasal disease. Twenty years ago he cured a very severe case of chorea simply by treating existing nasal

catarrh. Among the diseases falling under this class of which he had seen examples were melancholia, chorea, epilepsy, neuralgia, headache, digestive disturbances, reflex troubles pertaining to the upper air passages, uterine disorders and affections of the genito-urinary mucous membrane, disorders of smell and taste, various alterations in the speaking and singing voice, bronchial asthma, etc. Diffuse external redness of the nose was often dependent upon chronic nasal catarrh. A man came under his observation who suffered from chronic nasal catarrh, and was always seized with severe sneezing during coitus.

Lithotrity at One Sitting.—Mr. G. B. Browne concludes (*Lancet*, November 10, 1883) that the practical points to be attended to in attempting the removal of vesical calculus by lithotrity in the presence of organic stricture are: 1. Not to attempt such an operation if there is any false passage, or if the surgeon has not perfect confidence in his power to readily pass instruments in the particular case before him. 2. To use a lithotrite, the blades of which cannot become so separated by debris, as not to be approximated before withdrawal. 3. To thoroughly break the stone into small pieces, leaving no large ones, before commencing evacuation. 4. To evacuate only with tubes provided with stylets, so that if a fragment becomes engaged in the eye of the instrument it can quickly be dislodged.

Colotomy.—Dr. J. C. Warren (*Boston Medical and Surgical Journal*) cites the two following cases in which he performed this operation; both operations giving only temporary relief: The first case was that of a twenty-three-year-old German girl, who had shown symptoms of rectal disease for one year. She suffered great pain on defecation, in consequence of an indurated growth, which an examination showed obstructed the lower portion of the rectum. An incision, embracing all the tissues between the anus and coccyx, and including the lining of the bowel and the skin, gave relief for a week or two, when the symptoms of stricture again manifested themselves, and it was found that the disease had extended above the incision. Colotomy was performed in the manner described by Allingham, special attention being given to antiseptic precautions, as a slight erysipelas had followed the first operation. Except a slight erysipelatous blush there were no unfavorable symptoms, and the patient was discharged from the hospital in thirty days after the operation, with complete relief from suffering, and having two natural movements from the bowels daily. The disease progressed, and the patient died in six months, being obliged to resort to opiates only a few days before death. The second case was that of an infant with congenital abscess of the rectum. In this instance the incision was made in the *right* groin, in accordance with the opinion of Huguier, that the sigmoid flexure is found there in infants. Relief followed the operation; but the child died on the fourteenth day from a progressive

emaciation. An autopsy could not be procured; but Dr. Warren thought that the ascending colon had been opened. Considering the fact that the position of the sigmoid flexure, as given by Huguier, is found in a comparatively small percentage of cases, and that marked emaciation occurs when the ascending colon is opened, although the rapid and abundant discharge of fæces following the incision made it seem probable to him at the time of the operation that the opening had been made near the fundus of the cul-de-sac. He is of the opinion that the operation suggested by McLeod—viz., to perform abdominal section, when the rectum is wanting, free, and empty the end of the bowel and stitch it to the anal opening, although a severe operation—is to be preferred to all other alternatives. Dr. Warren says a linear division of the stricture which he has performed in a number of cases brings only temporary relief. A radical operation can only be attempted, with reasonable hope of success, in the earlier stages of the disease; but it is important to recognize the fact that the terrible suffering peculiar to cancer in this locality can be greatly relieved by an opening in the bowel at some point above.

Healing of Ulcers in Laryngeal Phthisis.—Dr. William C. Jarvis (*New York Medical Journal*) recently gave the history of a case of phthisical ulceration of the larynx in which the right vocal cord was almost entirely eroded, and in which there were all the peculiar signs of laryngeal phthisis. A well-known expert examined the patient, and stated that there were undoubted evidences of pulmonary phthisis. The patient was unable to swallow, and her condition had become very pitiable indeed. A very unfavorable prognosis was given. The treatment was general and local. Directions with regard to the taking of food, remedies for the relief of cough, pain, sleeplessness, and nervousness were prescribed, and iodoform was applied to the ulcer. The patient changed climate. Much to his surprise, on her return he saw a woman apparently well, and she claimed to be so, for all the symptoms from which she had so severely suffered had disappeared, and she had gained in flesh. The ulcer had healed. There were still signs of pulmonary phthisis. Dr. Johnston, of Baltimore, refers to a case of laryngeal phthisis which he had been enabled to follow from before the time when signs of pulmonary phthisis could be detected. The laryngeal ulcers in that case healed under treatment. Dr. Donaldson, of Baltimore, thinks that much could be done in these cases toward prolonging the life of the patient by feeding through the stomach pump. Dr. F. H. Bosworth, of New York, thinks that many cases of ulcer of laryngeal phthisis which had been reported as having been cured were not such in fact, but were of a catarrhal origin, and he pointed out the differential signs between the two varieties. He remarks that the laryngeal ulcer did not cicatrize; the morbid growth simply stopped, and the surface of the ulcer took on a glazed appearance.

Oxygen in Illuminating Gas Poisoning.—Dr. A. Clarke (*N. Y. Med. Jour.*) cites the following cases: Case 1. A forty-year-old woman and her daughter had gone to bed the night before, and at noon were found in a state of unconsciousness, the room where they had been lying for fifteen hours being filled with illuminating gas, the odor of which had been noticed when they went to bed. On recovering from her insensibility, the patient could remember nothing from the time of her going to bed until she regained consciousness in the hospital ward, twenty-four hours after. On admission, she was suffering from pulmonary œdema; the radial pulse was scarcely perceptible, she was unconscious and cyanotic, her extremities were cold, there was trismus with rigidity of the flexor muscles, the urine was passed involuntarily, the pupils were slightly contracted, and a frothy mucus issued from the mouth; temperature was 96.5° F., and respiration 40. Dr. A. Clark directed the inhalation of oxygen. Its administration was kept up for three hours. In addition, dry cups were applied over the chest, and tincture of digitalis was given endermically—in all, to the amount of thirty minims. Whiskey was given subcutaneously, and hot-water bottles were applied to the extremities. Occasionally the patient was aroused by flagellation. This treatment was continued for four hours, when the woman began to show signs of returning consciousness; the pulse became more perceptible and regular, warmth returned to the extremities, and the temperature and the respiration were found to be normal. The next day the patient was able to tell her story, and was soon afterward discharged. Case 2. The daughter of the first patient, a twelve-year-old girl was admitted at the same time. Her breath had a very strong odor of gas; she was completely comatose, the breathing being stertorous, the eyes closed, the conjunctivæ insensitive, and the pupils contracted and insensible to light; the pulse was 156, extremely feeble, and occasionally intermitting; the respirations were 30 and shallow. There were clonic spasms involving the left side of the body, with bird-claw contraction of the fingers of both hands. The urine and fæces were passed involuntarily. The face and clothing showed evidence that the patient had vomited a good deal before reaching the hospital, but after her admission there was no vomiting. The house physician, Dr. Pryor, resorted to the same treatment in this case, and, in addition, gave a hypodermic injection of a sixtieth of a grain of atropine sulphate. This patient also recovered.

The Pulse after Hanging.—In the *Journal of the American Medical Association* of December 8, 1883, appears a letter from Dr. Blankenship, detailing observations upon the pulse of a criminal during and after execution by hanging. After the rope was adjusted the pulse rate was 121; immediately after the drop it fell to 54, 39, 30, 20, and to 0 in the fifth minute; but the sixth minute it rose to 70, then 73; eighth minute, 0; ninth, 34; after this no pulse was perceptible. The death was from strangulation, the neck not being dislocated. It is stated that the heart beat two or three times between the ninth and nineteenth minutes, and once during the nineteenth minute.

ORIGINAL TRANSLATIONS.

SPLENO-PNEUMONIA.—Communication read before the Société Médicale des Hôpitaux at the session of August 10th, 1883, by M. Grancher, Agrégé dé la Faculté, etc. Translated from the *Union Médicale* of December 23, 1883, by H. McS. GAMBLE, M.D., Moorefield, West Virginia.

Woillez has described, under the name of *simple pulmonary congestion*, a morbid condition of the lungs, very variable in its physical signs and the behavior of its symptoms; sometimes primary and independent, sometimes secondary and associated with other diseases of the lungs, or with general affections.

The observations of Woillez have reference to an acute, febrile and rapid disease since, in the reflections that follow the history of the facts, Woillez finds that the average duration of three or four days assigned by his pupil, E. Bourgeois, to simple pulmonary congestion is too long. He would prefer to fix upon twenty-four to forty-eight hours as the average time necessary for the evolution of simple pulmonary congestion, so that the idea of *duration* is perhaps the most constant of all those which are found in the observations of Woillez. In fact, to every attentive reader the author has evidently wished to speak of a disease or of a pulmonary complication of every short duration; but the signs of auscultation, of palpation and of percussion are so variable that one would with difficulty find two cases alike in the histories which he reports. Sometimes the respiration is feeble, and sometimes exaggerated; sometimes the murmur is rude, or granulous, or blowing, or puerile, mingled or not with sibilance and with moist râtes. Often, finally, it is the bronchial souffle limited to the root of the bronchi, with or without crepitations, which becomes the predominent and only sign of the pulmonary congestion (p. 48 to 53).

The vocal vibrations are sometimes manifestly diminished, most frequently normal, never increased (p. 51).

Finally, the sonorousness may be tympanitic, or, on the contrary, dull or perfectly flat.

In spite of the uncertainty which results from this extreme variability of the signs and symptoms, an uncertainty which the analytical method of Woillez tends to exaggerate, very little experience in clinical matters suffices to induce one to admit that all these signs, isolated or grouped, fixed or stable, may be met with in pulmonary congestion. Hence, the type described by Woillez ought to stand.

It is a disease arising ordinarily after a rapid cooling off, coming on with a chill, and a pain in the side with fever and expectoration, lasting from twenty-four hours to four days. The most constant physical signs are dulness, a soft murmur and moist crepitations. The lesion is a pulmonary congestion. A process fluxionory and inflammatory at the same time, it answers quite well to the idea we had formed of a pneumonia aborted or arrested in its evolution. Between this pulmonary congestion and frank lobar pneumonia, along with

broncho-pneumonia, *there exists a morbid condition of the lungs, a sort of sub-acute pneumonia, which simulates a pleurisy with moderate effusion, and which merits a special description and denomination.*

The history of a patient admitted the 18th of July into my wards appears to me entirely decisive.

R. E—— is a young man twenty-four years of age, without any pathological antecedent hereditary or personal. Three months ago he complained of a pain in the left side and came for advice to Necker, where wet cups were prescribed and applied. The pain was relieved and R—— resumed his work; but from time to time, when he made an effort or took a deep inspiration, the pain reappeared near the sixth rib. No cough or expectoration.

The twelfth of July, six days before his entrance into the hospital, he was caught in a shower, and the very evening of that day a violent pain in the side was felt, still on the left; at the same time, a severe chill and dyspnœa came on. After this R—— was compelled to keep his room, shivering and coughing a little. He came to the hospital in this condition, and the evening of his entrance the thermometer indicated 38.5 C.

The examination of the chest showed that there existed in the whole lower portion of the left side, from the angle of the shoulder-blade down, the whole group of the physical signs of pleurisy: flatness with considerable weakening of the vibrations, shrill souffle, broncho-egophony, aphonic pectoriloquy (pectoriloquie aphone).

The diagnosis of the students was pleurisy.

However, in spite of the formal establishment of the signs which precede, I kept for myself the opinion that the pleura was sound, and that a pathological state of the lungs was the cause of all the symptoms. But, still doubting somewhat my diagnosis, I asked my colleague and friend M. Rigal to give me his opinion. M. Rigal thought that there existed with a pulmonary congestion a slight *pleural* effusion, and, to remove all doubt, he made at once, with a Pravaz syringe, an exploratory puncture at the point where the egophony appeared to him most manifest.

This puncture gave but a few bubbles of air and a little drop of bloody serum, the needle having entered immediately into the lung.

The next day and the days following there was no fever, but the same physical signs persisted; the patient not coughing save when he moved. He was taken then with a little cough without expectoration.

The 20th and the 21st of July I made two new explorations, and I could discover that the syringe contained a few bubbles of air and a little blood as soon as the point of the needle had penetrated to the depth of eight or nine millimetres, which amounts to saying, given the moderate embonpoint of the patient, that the pleura had undergone no thickening, and that the lung was applied against the thoracic wall. I have made punctures upon the cadaver, with an ordinary needle, with the view of measuring the thickness of the skin of the cellular tissue of the muscles and of the costal pleura, in the sixth and seventh intercostal space at the posterior angle of the ribs, and I have found an average thickness of eight to ten millimetres.

The 22nd of July I requested Professor Potain to see the patient, and I made him acquainted with the incidents which I have just related. M. Potain recognized the fact that the signs pleaded in favor of a pulmonary congestion with effusion, and said to me that, if the proof of the non-existence of this effusion had not been given, he would not have hesitated to admit the presence of a thin layer of liquid.

I have since that time submitted this patient to the examination of two of my colleagues, MM. R. Moutard-Martin and Tapret, of several of our esteemed confrères, MM. Gimbert, Roustan, Daremberg, Mahé, and of several internes, all of whom, in ignorance of my explorations, agreed upon the existence of a pleurisy. In fact, not only the signs of pleurisy were determined, but even the whole evolution of the disease, it's début, its progress, its localization, etc., so that the idea of a pleural effusion imposed itself, even upon an examination, somewhat summary. It was necessary, in order to conclude, as MM. Potain and Rigal, upon the presence of a pulmonary congestion with a little pleurisy, to lay great stress upon the *quality* of the murmur and the egophony.

For all these reasons, very strong ones, as may be seen, our colleague, M. Blachez, to whom I showed the patient, persisted in thinking that there existed a gelatinous pleurisy, if not a pleurisy with effusion. It seems to me, however, difficult to make this opinion conform with the proof furnished by the capillary needle, that the lung is eight or nine millimetres from the surface of the skin. How can we explain, under these conditions, that the flatness, the diminution of the vibrations, the murmur, etc., are due to a pathological state of the pleura? MM. Potain and Rigal have not hesitated to admit with myself that the lung was, in this case, and at the moment of its examination, alone responsible for all the symptoms without serious participation of its envelope.

The sequel of the case is interesting. A sensible amelioration began to take place, the souffle was more circumscribed, the broncho-egophony weaker, the vibrations were reappearing, and the pain in the side was diminishing when R—— went down into the garden without permission. He did not say that he had experienced a sensation of cold. However, the same evening, the pain returned more intense, though without fever, without chill, and without cough (July 26).

The 27th of July we observed that the physical condition had reappeared near about what it was the first day. It seems, then, that the relapse was the consequence of the promenade in the garden. Condition stationary up to August 8th. From this date until the 29th of August the amelioration was slow, progressive and regular. The sonorousness reappeared little by little with the vibrations, whilst the murmur, the aphonic pectoriloquy, the crepitations and the egophony disappeared. At no time during this long period of convalescence could the least pleuritic friction be heard.

The apyrexia was complete from the day after his admission into the hospital (July 19), in spite of the relapse which we have witnessed. The appetite has remained good, the digestion satisfactory.

R—— left my service the 29th of August, cured without any therapeutical intervention. However, there still remained at the level of the pulmonary

lesion a respiration, especially inspiration, rude and granulous; this same character of the respiration was discovered somewhat everywhere, even at the apex of the left lung. I have seen this patient twice, one month and two months after his departure from the hospital, and the physical signs of a diffuse and general congestion of the left lung still persisted, which certainly causes me some uneasiness for the future.

Such is, without further comment, the case around which it will be easy, I believe, to group analogous or approximate cases.

I have under observation at the present time a patient whose brief history will throw light upon that which I have just reported. The two cases are related by the essential features, and differ a little by the secondary points.

We have here a young man nineteen years of age, somewhat weakly, and the son of a tuberculous mother, consequently suspicious, although of habitual good health. This young man had been suffering for two months, from time to time, in the region of the left false ribs, when on the 26th of last August he fatigued himself very much by dragging a cart up the hill at Bicêtre. He went to bed as usual in the evening, but on getting up the next day, he was seized with a violent pain in the left side and with chills. A physician was called, and prescribed the application of a blister. But the 30th of August, his condition growing worse, R—— came to the hospital. The cough is hard, dry, capricious and paroxysmal even to suffocation; the pain in the side very severe, the fever sharp, 40.2, and no expectoration. The physical signs in the lower third of the chest on the left side are those of an effusion, flatness, vibrations almost abolished, murmur soft, especially of expiration. Broncho-egophony slight with aphonic pectoriloquy. But during the strong expirations of a fit of coughing, we hear, even down to the base, crepitations which are dispersed only upon inspiration. Traubé's space is very sonorous. The vibrations reappear progressively increasing up to the apex. During the next few days, the fever being quite high all the time, the physical signs invaded, *in ascending and winding*, the sub-axillary and the sub-clavicular regions, so that by the 2nd and 3d of September one might have believed oneself confronted by one of those *winding pleurisies* of Lasègue.

In front, laterally and at the back, the lung was flat from the base to the apex, and the vibrations very much diminished. The murmur was hard and strong as it sometimes happens in large effusions. But the space of Traubé preserved its sonorousness in all its extent, and the fine and discrete crepitations, although inconstant, were observed even down to the lower edge of the lung.

The cough was somewhat quieted, expectoration absent still. I made an exploratory puncture with a Pravaz syringe in the seventh intercostal space. It was negative. Up to the seventh of September the condition does not change; but from the eighth R—— is better, the cough ceases, yet the souffle is all the time strong and diffused in the whole upper part of the lung; the crepitations, though rare, are always present, even at the base, on the level with the vertebral groove.

The twelfth of September our distinguished confrère, M. Leudet, of Rouen, doing me the honor of accompanying my visit, I showed him this patient, who

was already much better. The apex was beginning to clear up, and numerous and large crepitations could be heard. Below and behind the murmur was sharper, with a higher tone than formerly, and a new puncture performed under the eyes of M. Leudet at the angle of the ribs gave issue to a lemon-colored and somewhat viscous liquid.

It is probable that a small quantity of liquid had been formed recently in the pleura, at the moment of convalescence, when the less-congested lung was recovering, for since the first puncture I had made two others equally negative.

The presence of superficial crepitations on the one hand, the integral conservation of the space of Traubé on the other, precluded the idea of an abundant effusion, and to M. Leudet, as well as to myself, there seemed to be no doubt that this pleural exudation was an old *episode*, or a recent one supervening in the course of a *disease of the lung.*

The next day and the days following we found loud friction in the sub-axillary and mammary regions, which confirmed the participation of the pleura in the morbid process, for the problem presents itself, and will often present itself, thus : Is it a question of pleurisy with an abundant effusion, accompanied by a little pulmonary congestion, or a sub-acute pneumonia, a spleno-pneumonia with a little liquid in the pleura?

Does there exist a third combination in which the fluxionary process equally divided between the pleura and the lung furnishes a mixture with equal proportions of pleurisy and pneumonia ; or, rather, does not the fluxion bring to bear its efforts alternately upon the pleura and the lung, as takes place in those cases of pleuro-pulmonary fluxion of which M. Potain has spoken at the congress at Rouen? You see that the question is not always uncomplicated.

But, returning to the subject which occupies us, I hope to find few opponents if I say that a little effusion does not change the diagnosis when it has supervened in the course or in consequence of a primitive and dominant pulmonary lesion ; and this is the case with my second patient.

Here is then the abridged history of another man at this very time under my charge.

D——, 41 years old, is a subject of albuminuria, upon whom paracentesis was performed last year at several different times by my interne, M. Netter. To-day, in spite of the persistence of a little albumen in the urine, the ascites and the anasarea have disappeared, but there remains upon the left side an ensemble of signs which has caused the students to make the diagnosis of hydro-thorax, flatness, vibrations abolished, soft murmur, egophony.

At the beginning, towards the eighth of June, D—— complained of weakness and of chills, accompanied by a pretty severe dyspnœa, and of a pain in the left side. He coughed and expectorated a good deal. On the contrary, he neither coughs nor expectorates to-day, although the physical signs of the lesion of the left lung have remained unchanged for more than three months. But, in this interval, D—— has passed through several acute episodes during which the cough reappeared with the expectoration, at the same time that the right lung, ordinarily sound, was filled with sonorous and mucous râles. At one

time even, soon after the admission of the patient, a pretty active delirium came on for two or three nights, and we had to order a rigorous surveillance.

It must not be forgotten that this man is albuminuric, and that these crises of bronchitis with expectoration and cough, that this delirium even depends very probably upon his nephritis.

Ordinarily he is quiet, without fever, without dyspnœa, without cough or expectoration. He gets up every day and walks about in the ward. His appearance is pretty good, the appetite sufficient. To see him, no one would suspect either that he is a subject of albuminuria, or that, if his right lung is sound, the left is diseased throughout its entire length.

There was at first a circumscribed lesion in the lower lobe, and characterized by the classic signs of an intra-pleural effusion. Flatness, almost complete abolition of the vibrations, soft murmur, expiratory broncho-egophony. Little by little the sub-clavicular tympanism gave place to flatness, and at this point, as in the supra-spinous fossa, was found flatness in union with increase of the vibrations and respiratory weakness.

The 26th of July I made a negative exploratory puncture, and up to the end of September four new punctures, always with negative results.

I may add that the space of Traubé is intact, that a few pulmonary crepitations are heard even at the base, that above the inferior zone of the lung the vibrations are reappearing little by little, and not brusquely. All signs favorable to spleno-pneumonia.

Here we are then in possession of some facts which permit us to refer to the lung the sole or preponderant cause of the symptoms quite similar to those of a sub-acute or chronic pleurisy. Let us resume the symptoms. Flatness, considerable diminution of the vibrations, murmur soft, broncho-egophony, to which must be added the discrete crepitations, limited to inspiration, the conservation of the space of Traubé, the *progressive* increase of the vibrations from the base to the apex. To these characteristics, it is proper to add that even in the acute form the disease progresses and disappears slowly.

R—— has taken five weeks to recover, and during more than fifteen days the physical signs have remained unchanged. My second patient, Rou——, has been sick for a month, and the resolution of his pneumonia has hardly commenced; his fever, high at the beginning, has lasted nearly twenty days, counting those he has spent out of the hospital. Finally, D——, the subject of my third history, has been sick for several months, and completely apyretic.

If the début may be acute and simulate by the chill, the pain in the side, the cough, a frank pneumonia or pleurisy, the ever-dragging evolution may be sufficiently tardy to constitute a chronic form apart from the sub-acute form which I suppose to be the most common.

What we know of the march of the temperature confirms the idea of a sub-acute phlegmasia. By the daily record in the case of Rou—— it will be remarked that the great oscillations of the thermic column between 37° and 39.5 respiral exacerbations and morning remissions, lead to a progressive defervescence towards the twelfth day (sixteenth day of the disease). On the contrary, R——, the evening of his admission, the seventh day of the disease, had 38.5;

the next day he was apyretic, and from that moment until his recovery there was no fever; the pulmonary phlegmasia was here very mild, and without any complication on the part of the pleura.

The third patient is apyretic, which does not mean that he has not had, at the commencement, some febrile days, but we do not know either of the degree or the form of this fever. New observations are necessary to fill up this vacancy. Likewise, the examination of the urine deserves special attention, which we have not yet given it.

We come now to the study of the lesion. We have no autopsy, and we can only proceed by induction and under *all due reserve*. But our knowledge of the pneumonic phlegmasias authorize, perhaps, at this time, an attempt at description.

In his examination thesis upon the different forms of broncho-pneumonia, M. A. Joffroy has given a part to the study of splenization, and has opened a chapter for spleno-pneumonia, which he considers as a form of broncho-pneumonia, corresponding with the *generalized lobular pneumonia* of Barrier, with the pseudo-lobar broncho-pneumonia of Damaschino and Cadet de Gassicourt. Although the pathology of infancy has been the principal objective of M. Joffroy, nevertheless adult age has not been systematically put aside from his description; far from it. Besides, it is easy to find in the excellent monograph of our colleague the same exposition of symptoms that we have found in our own cases; the flatness, the soft murmur, the crepitations, the ordinary diminution of the vibrations, everything that is essential is met with there, even to the fever with evening exacerbations and morning remissions. But, in the child, the symptoms are more mobile or fugacious, the crepitations more abundant, the dyspnœa very great, and the respiratory rhythm inverted.

These dissidences cannot efface the agreement of the principal symptoms in the adult and in the child, such as follows from the description given by authors, compared with the history of my patients. In both cases the splenization of the pulmonary parenchyma would be the fundamental element of the disease. What remains doubtful until the autopsy is the proportional part of the splenization in the morbid process.

Thanks to the works of Louis, Vulpeau, Bazin, Charest, and Balzer, we are beginning to distinguish pulmonary atelectasis, broncho-pneumonia and splenization.

The association in variable proportions of these three elements and of a few others, emphysema, etc., etc., etc., constitute the complex lesion of *broncho-pneumonia* in children. But, to consider only splenization and the broncho-pneumonic nodules, one may meet with them in inverse proportion, according to the case. Here the hepatized foci are very numerous and scarcely surrounded by a zone of splenizated alveoles; there, on the contrary, the tissue of the lung is uniformly red, smooth and level, splenizated, in a word; scarcely are a few nodules seen of broncho-pneumonia discretely scattered.

M. Joffroy refers to this last type when he describes separately the spleno-pneumonia of childhood as a variety of broncho-pneumonia, and, if I am not mistaken, my patients were attacked likewise with spleno-pneumonia.

Splenization is above all an *epithelial pneumonia.* Swelling of the lining cells of the alveoli and their desquamation, accompanied by an abundant sero-albuminous exudation, such is the principal lesion. It is necessary to add thereto the obliteration of the bronchioles by mucous or muco-purulent secretions and the œdematous infiltration of the peri-lobular connective tissue.

For M. Charcot the *obliterating inflammation* of the bronchi would be the primordial lesion, the cause of the atelectasis and of the splenization for the lobules which it supplies, and things would take place in the lungs as in the liver after ligation of the choledoch duct infallibly followed by epithelial neo-formations and connective tissue thickening.

To sum up, we would have to deal, then, with an epithelial inflammation with sero-albuminous exudation.

The microscopic aspect recalls that of passive congestions in which the lung is smooth and red, crepitation little, and serious, but the splenizated lung is more compact, it yields less to the pressure of the finger, discharges less serosity, and sinks half way; finally, the histological examination removes all doubt. In the congested lung, the alveoli are nearly free of exudation, the miscroscopic section appears largely aerated ; on the contrary, it is nearly opaque, the alveoli being full of epithelial cells and of albuminous serosity in splenization.

This difference is much more apparent upon microscopical sections than upon a comparative examination of the two lungs by the naked eye.

We might, perhaps, these classical views to-day upon spleno-pneumonia being admitted, attempt an explanation of the physical signs, and especially of the diminution of the vocal vibrations, the primary source of errors of diagnosis, in reflecting upon the manner by which the vibrations are formed and perceived. They *arise* in the larynx, are *propagated* in the bronchial tubes, and are *transmitted* by the pulmonary-parenchyma to the hand applied upon the thorax.

In the point in question, the absence of the ordinary signs of bronchial inflammation, expectoration and râles, seldom permits us to refer the diminution of the thoracic *fremitus* to a defect of propagation in the bronchial tubes. But if the transmission by the lung changes with the modifications of density which it has undergone, it is easy to see that the alveoli, half filled with sero-albuminous exudation mingled with epithelial cells, approaches rather to the density of liquids than to that of solids. Under these conditions, the pulmonary mass ought to oppose to the vocal vibrations nearly the same resistance as a layer of intra-pleural liquid. In fact, the capillary punctures have furnished a drop of sero-sanguinolent liquid in which the red globules are few in number.

In support of this explanation, I might cite several autopsies, among others one which I made the 14th of April, 1878, at the Hopital Temporaire, with M. Havage, my interne. It was a case, we thought, of pleuro-pneumonia, for the egophony and the diminution of the vocal vibrations were noticed up to the last day. But we found at the autopsy a suppurative pneumonia without a trace of fluid in the pleura, and without the possibility of admitting that there ever had been any, for the two layers of the pleura were intimately united by a thin symphysis, but organized, firm and old.

The lung was then alone responsible for the transformation of the ordinary

signs of pneumonia; but its tissue was grey, smooth and much less compact than at the second stage of pneumonia.

Besides, it is classic to attribute to certain pulmonary congestions, and to certain forms of œdema this same diminution of the vocal *fremitus*, and this attenuation of the murmur which is met with also in ordinary broncho-pneumonia and in spleno-pneumonias.

The diagnosis of *spleno-pneumonia* from *simple pleurisy* is difficult, for flatness and diminution of the vibrations are met with in both cases. Likewise the murmur and the egophony are quite similar; however, in pleurisy, *the egophony is purer and the murmur of a more acute tone.* But there are other differential signs. Some belong to the *focus*, I mean the discrete and superficial crepitations which are heard here and there in inspiration only, when there is inflammation of the pulmonary parenchyma; others belong to the *vicinity* (voisinage). The persistance of the space of Traubé is the best of all, for, save in very rare exceptions concerning wide-spread lobar-pneumonia, the sub-acute phlegmasia of the lung could not push back the semi-lunar space and render it flat.

It is known, moreover, that the lung which floats in the effusion of a moderate pleurisy undergoes a sinking that gives rise, above the level of the fluid, to a zone where the vibrations are abruptly increased. This *zone of condensation* is wanting in spleno-pneumonia, when the vibrations reappear *little by little and progressively* from the base to the apex.

But, although all these signs were combined in the patients of our first and third observations, the solution of the problem would have escaped us still had not the capillary puncture apprized us that the lung was applied against the wall of the thorax, at nine millimetres from the surface of the skin. Here is, I think, an unanswerable argument; however, to withdraw no liquid with the Pravaz syringe is not sufficient to affirm the absence of pleurisy; for this, it is necessary that a few drops of sanguinolent, and spumous serosity enter the needle of the Pravaz and the barrel of the syringe. Then only is one sure of having come in contact with the lung.

When the pleurisy is accompanied by pulmonary congestion, as so often happens, the diagnosis is still more difficult. I refer to those cases which Prof. Potain has so well described, and which will be found recorded in the excellent thesis of M. Serrand.

When in pleurisy with moderate effusion the lung is sound, it floats and retracts, yielding its place to the liquid. Such is not the case when the lung is congested, more dense and less retractile; it no longer allows itself to be pushed back, but sinks down in the liquid, and causes its level to ascend by so much the more as it is itself more voluminous. It results that the liquid seems more abundant than it really is, and that the condition of the lung, masked by the effusion, most frequently passes unnoticed. It is to M. Potain that we owe the knowledge and the elements of the diagnosis of these complex pathological states, much more frequent than is supposed, and which may be associated in very variable proportion. In the greater part of the observations published by M. Serrand, the pulmonary congestion was intense, and it seems to have preceded sometimes to have accompanied, at least, the formation of the pleural effusion.

On comparing the picture of the differential diagnostic signs of simple pleurisy, of pleurisy with pulmonary effusion, and of spleno-pneumonia, we arrive at the following conclusions: The capital, almost the characteristic sign of pulmonary congestion is a gummy, ropy expectoration, but little aerated, and often very abundant. Bouilloud had already recognized in it the highest diagnostic value, and the experience of every day proves that he was right.

The physical signs of pulmonary congestion with pleural effusion, and of spleno-pneumonia, are essentially the same—diminution of the vibrations, dulness, broncho-egophony, soft and grave murmur, are with it in both cases. The dry, rare, superficial crepitations belong to spleno-pneumonia as well as the conservation of the semi-lunar space.

It is easy to understand that the almost complete similarity of the signs may be a source of frequent errors, and that it is easy to take a spleno-pneumonia for a pulmonary congestion with effusion, and *vice versa.*

Where is the physician accustomed to practicing thoracentesis who has not made a dry puncture? And even in the thesis of M. Serrand is found the history of a case in which the diagnosis "pleurisy with pulmonary congestion" was not confirmed by puncture. The fourth of February, the quantity of the liquid was estimated at 1,500 grammes. The fifth and sixth, this *quantity increases,* and on the morning of the seventh puncture was practised in the external portion of the sixth intercostal space. "*No liquid,* but only *a little blood. There is then no liquid, or almost none, in the pleura; it is most certainly a case of pulmonary congestion.*"

In re-reading this description, I ask myself if the diagnosis of spleno-pneumonia would not meet this case? Besides that, it was clearly demonstrated that the lung was alone responsible for the physical signs observed; the patient had coughed but very little, and had not expectorated at all. Moreover, crepitations appeared February the thirteenth. Finally, after a short fever, came along apyrexia. S—— left the hospital the seventeenth, the level of flatness having remained the same, and the other physical signs simply attenuated.

Do not this fixity and this duration of the physical signs, added to the crepitations, to the absence of expectoration, and to the proof furnished by the trocar of the absence of all liquid, seem to demonstrate that it was a question of a subacute inflammation of the lung reproducing, trait for trait, the history of my first case?

Between *simple pulmonary congestion and spleno-pneumonia* the differences are great, if we refer to the pure types of each one of these pathological states. The variety and the mobility of the physical signs, the abundance of the crepitations and of the expectoration, the greater acuteness, and also the much more rapid evolution of congestion, are so many differential symptoms which do not long admit of confusion. But the pulmonary congestion, which lasts, which installs itself and persists after the febrile period for two, three, four septenaries, has the greatest affinities with what I believe to be spleno-pneumonia. It is probable that the anatomical differences are of little moment, and tend to become effaced in proportion as the congestion lasts, which passes little by little into epithelial pneumonia.

A point often very delicate is to decide, given a spleno-pneumonia, whether there exists or not, concurrently with the epithelial inflammation of the lung, an exudative pleurisy with but little effusion. The error is so much the more easy, as a small quantity of fluid does not change sensibly the physical signs, the crepitations being readily heard through a thin layer of effusion, and as the liquid may retreat to the angle of the ribs in the pleural culs-de-sac, or even between the diaphragm and the interior face of the lung. But the presence of a small pleural exudation, by no means changing the state of affairs in reality, its diagnosis matters little. In return one may see, as in my second patient, an inflammation of the pleura accompany the pulmonary phlegmasia and the line of flatness gain, in *ascending* and *winding*, the axilla and the sub-clavicular region and realize what Lasègue called winding pleurisy.

A sound lung in a state of semi-collapse and pushed back by a hydrothorax may produce an illusion in certain exceptional cases, and I have recently seen the proof of it since I have committed this error in the service of my colleague M. R. Moutard-Martin. In the patient of whom I am speaking, we had not overlooked the presence of the effusion, and puncture performed on two occasions had given, the first time two hundred grammes and the second eight hundred. We thought no longer of an acute or a sub-acute pulmonary inflammation, the patient having never had fever or pain in the side. But, in the presence of the physical signs in every respect like those of a pulmonary splenization, we had thought of a chronic inflammation of the lung accompanied by effusion.

The autopsy showed that it was a case of hydrothorax with pulmonary collapse.

At each inspiration the lung simply compressed gave out through a thin layer of liquid *crepitations of unfolding* (crépitations de déplissement) which, united to the other signs, broncho-egophony, soft murmur, attenuated vibrations, were the cause of our mistake.

But it is proper to add that the thoracic cavity was, in this patient, extremely reduced by the volume and the adiposity of the heart, by the enormous hypertrophy of the spleen, and the excessive developement of the stomach, so that a little effusion of seven to eight hundred grammes produced upon the lung the effect of a crowding back, and of a compression of an effusion of two or three litres in an ordinary thorax. The extreme adiposity of the subject having rendered all investigation of the space of Traubé, all palpation of the spleen, of the stomach and of the liver impossible, we could not appreciate the ratio of the thoracic capacity, of the quantity of effusion and of the volume of the lung.

This review of the differential diagnosis of *spleno-pneumonia from pleurisy, pulmonary congestion with effusion, simple congestion and pulmonary collapse,* is all that the histories which I have in my hands permit. It would have been easy for me to find in medical literature facts analogous to that which I have borrowed from the thesis of M. Serrand; but, besides that I am ignorant whether the authors would accept my interpretation, nothing can take the place of direct observation for the interpretation of physical phenomena, murmur, egophony, etc.

The prognosis of spleno-pneumonia seems more serious than that of simple pleurisy and of pulmonary congestion. This is all that I can say of it, the documents being wanting and being but illy replaced by more or less faithful souvenirs.

ORIGINAL ABSTRACTS.

(BY J. G. KIERNAN, M.D., CHICAGO, ILL.)

PROTRACTED PREGNANCY.—Dr. Ballard (*British Medical Journal*, Jan. 12, 1884) says that he has attended a sixteen-and-a-half-year-old girl, the duration of whose pregnancy was 306 days, or 44 weeks all but two days. He has been very careful to guard against error with regard to this case, and believes it may be accepted as a reliable contribution to the statistics on this subject. The pregnancy was the result of a single intercourse. The labor was short and easy for a primipara, and the child quite within the average as to size.

ETHYL BROMIDE IN DELIVERY.—The *Medical and Surgical Reporter* states that the investigations of bromethyl in childbirth have demonstrated that in any of the bromine ethyls is found a remedy of the greatest value in delivery. Its greatest advantage consists in causing local anæsthesia without loss of consciousness. Dr. Parnemann's (*Allg. Med. Centr. Zeit.*, No. 86, 1883) researches appear to prove definitely that under the influence of bromethyl the labor generally progresses more regularly, the single contraction of the uterus endures longer and is more powerful, that the frequence of the pulse suffers no alteration, and that there is perfect local anæsthesia. Rapid effect is another benefit derived from this remedy in childbirth. Dr. Parnemann established that usually, at the first inhalation of the drug, about ten deep inspirations are sufficient to establish local anæsthesia, while during the later inhalations two deep inspirations mostly answer to make the labor painless. Delivery may be concluded by the application of the forceps, and the latter causes almost no expression of pain. The patients were conscious during the whole time, yet totally free from pain, and disagreeable consequences have not been noted.

PANCREATIC EXTRACT IN TYPHOID FEVER.—Dr. Frank C. Wilson recommends (*American Practitioner*, January, 1884,) that the milk given to typhoid patients should be first digested with extractum pancreatis. Milk thus treated cannot be coagulated by even the strongest acids, its casein being transformed into peptone, and in a condition to be at once absorbed and assimilated. A slight bitterness, to which the patient soon becomes accustomed, is noticeable at first, so that it is taken readily and produces no discomfort. This may be avoided by stopping the process of digestion before it is entirely completed. It has been found by experiment that the taste is developed only when the casein is entirely peptonized. It is scarcely ever necessary to carry the artificial digestion so far. When stopped at any point before completion the taste is perfectly natural. If immediately placed on ice, it can be kept as long as simple undigested milk. The pancreatic extract ferment is held in a latent condition, and when taken into the intestinal canal may still further aid in the completion of the digestive process. To prevent the patient becoming tired of the same article of diet day after day, its form of administration may be varied in a number of ways. As the casein is peptonized, and cannot be coagulated by even the stronger acids, the milk so prepared can be utilized in making milk punch. This can be flavored with lemon-juice or any other acid desired. Thickened with gelatine, sweetened and flavored, it forms a delicious milk jelly suitable for convalescent patients and grateful to the taste. During the past two years Dr. Wilson has met with many instances in which pancreatic extracts gave good results. It is useful in all instances where the digestion is enfeebled, or where it is interfered with by ulcerated or inflamed surfaces, the process of peptonizing food will be

found of service. In rectal alimentation its importance is manifest, the food so prepared is readily absorbed without inconvenience or irritation. Dr. Wilson has sustained patients with gastric ulcer entirely by nutrient enemata twelve or fourteen days. In this time the ulcer will heal so as to allow the cautious administration of peptonized milk in gradually increasing quantity, until a full meal can be taken.

Separation of the symphysis pubis occurred in a sixteen-year-old girl, thrown from her horse whilst riding astride on a man's saddle, and dragged some distance (*Australasian Medical Gazette*). When seen six weeks after the accident, she was suffering from bed-sores on the back and buttocks, with a sinus in the left groin passing close to the labium. There was a copious, thick and very fetid discharge from the vagina. There existed a separation of the pubic symphysis of one and a half inches. On introducing the finger into the vagina the roughened edges of the pubic articulation, denuded of cartilage, could be easily made out. The finger in the vagina could be plainly felt by a finger placed on the mons veneris, nothing but skin intervening between the two. The orifice of the urethra was dilated and altered in position. Six months after the accident, the finger, introduced into the vagina, encountered firm bands of tendonous substance, and uniting the pelvic articulation, part of the edges of the pubic articulation could still be felt, but smooth and covered by membrane. When first allowed to walk the girl felt "loose," and as though she was falling asunder. This existed only slightly later on, and was quite counteracted by a firm band round the hips. Incontinence of urine and cessation of the menses existed from the first.

Metallic Impurities in Canned Meats.—Dr. E. Davies (*Pharm. Jour. and Trans.*, January 19, 1884) says that his attention was recently called to a case of poisoning from eating tinned salmon, the doctor who had charge of the case having attributed the same to tin nitrate. Of course the chemistry of the medical gentleman was, to say the least, peculiar. Tin nitrate, either stannic or stannous, can only be formed by the action of nitric acid, either on tin or stannous hydrate for stannous nitrate, or on stannic hydrate for stannic nitrate. But there is no nitric acid in the flesh of salmon, and the formation of nitric acid from its nitrogen in the absence of oxygen is a chemical impossibility. Indeed, nitrates of tin are such unstable salts that they could not have endured the heat of preparing the tinned salmon, even if they had been purposely added. Whether tin can be taken up by the oil in which the salmon is cooked seemed, however, a possible thing, forming a fatty salt of tin. He, therefore, analyzed the oil from a tin of preserved salmon, using the cheapest kind. Three hundred grains gave .03 grain of residue on igniting the precipitated sulphides, of which a part was lead and a trace of tin. This amount is insufficient to cause any effect. Whether tin in such a form is poisonous is not known. The only tin salts which have been known to possess poisonous properties are the stannous and stannic chloride. Stannic chloride, as usually prepared, contains free acid, and its strongly irritant effects may be thus partly accounted for, but these salts are not present in tinned meats. Tin in the metallic form is not at all poisonous, and tinned vessels have been in such constant use for cooking purposes that some cases must have been met with if they could impart deleterious properties to the food. The lead which is almost always present in the tin used for tinning may be supposed to be the active agent. He analyzed tinned beef for this metal and found on the whole of the outside of the meat in a 4-pound tin .07 of a grain. The interior of the meat was quite free from tin. Lead poisoning from small doses does not cause sudden symptoms. Paralysis is the usual result, and not symptoms of irritant poisoning. The amount above stated

is quite insufficient to produce any visible effect, and the removal of the outside would remove any that might be present. He also analyzed a tin of tomatoes which had apparently suffered partial decomposition. Two ounces gave .10 of residue when the sulphides were ignited. This was principally tin with a minute amount of lead. The tomatoes were, of course, acid, and acid substances should not be preserved in tinned vessels, but even this quantity is so small that he should hesitate to assume that it could be injurious. The bad effects which have in a few cases resulted from the use of tinned meats are due to decomposition of the meat, owing to imperfect closing or faults in preparation. The results of his examination are that lead should be carefully excluded in the preparation of the tin plate, and that acid liquids should not be kept in tinned vessels, but that no cases are known in which any injurious effects have been proved to have resulted from metallic impurities in tinned meats.

Reciprocal Insanity.—Under this title Dr. R. L. Parsons (*Alienist and Neurologist*, October,) discusses *folie à deux*, and concludes: 1. That, although under ordinary circumstances the contagion of insanity does not extend from one person to another, the influence of the insane on persons inheriting similar faults of constitution, or a known predisposition to a similar form of insanity, should be avoided as dangerous. 2. That the conditions favoring contagion are most likely to occur among blood relations, who are intimately associated. 3. That emotional forms of insanity are especially liable to extend from one child to another; and also in a lesser degree among women. 4. That when two or more persons thus become insane, through similarity of predisposition, sympathy and intimacy of association, they usually exert an adverse reciprocal influence upon each other, both as cause and effect of their insanity. 5. That the contagion of insanity under the influence of sympathy, predisposition and intimate association, is most likely to occur during the inception and developing period of the disease; and that this liability ought to be taken into consideration, among other reasons, in determining the question whether it is advisable to treat insane patients at their own homes, during the early stages of their insanity. The last conclusion in its final phrase gives a therapeutic hint of most decided value.

Benzoin and Iodinized Camphor in Chilblains.—Dr. Seiler (*Polyclinic*) claims excellent results from painting chilblains with tincture of benzoin, and Mr. J. F. Leary, Rockhill, Md. (*American Druggist*), has found the following, painted on unbroken chilblains to give quick relief: Tincture of iodine, 2 parts; camphor, 1 part.

Castor Oil and Laudanum in Sore Nipples.—J. F. Leary claims that application of the following mixture, applied once or twice after each nursing, gives relief to sore nipples: Take of castor oil two ounces, laudanum five drops. M.

Picric Acid as a Test of Albumen.—Drs. Chas. A. Cook and Ralph B. Watkins, resident physicians, Bay View Asylum, Baltimore, Md., have (*Medical News*) found that in malarial cases in which quinine and cinchonidine were being used in large doses, these alkaloids were excreted in the urine, and gave, with picric acid, a reaction simulating that of albumen. Solutions of the alkaloids were found to give similar precipitates.

Bismuth Subnitrate as a Wound Dressing.—Dr. A. C. Post has found (*New York Medical Journal*) Koehler's bismuth treatment of wounds yields excellent results. He used it in the case of granulating surfaces following burns, and

found than it diminished the amount of granulation, the contraction of which, when they are allowed to develop, was the chief source of deformity. In neither children nor adults had the dressing caused the slightest intoxical effect.

Sugar in Hiccough in Children.—Dr. H. Tucker (*Southern Medical Journal*) says he has never known the following treatment to fail in hiccough: Moisten granulated sugar with good cider vinegar; give to an infant from a few grains to a teaspoonful. The effect is almost instantaneous, and the dose seldom needs to be repeated.

Papain.—Berthaud (*L'Union Médicale*, November 13, 1883) recommends as a substitute for pepsin, a milky juice extracted from the trunk and unripe fruit of the carica papoya. The fact that this tree contained a substance analogous to animal pepsin has long been known, but until 1880 no attempts were made to render such a fact of practical use. Wurz and Bouchat have found that milk, flesh, and fibrin are digested in greater quantity and with more ease by papain than by animal pepsin. Berthaud has found papain to act well in all functional stomach troubles.

Sick Headache Pencils consist of menthol, mixed in the better kinds with eucalyptol; in the cheaper with ordinary camphor. They are moulded into the shape of a cone, and enclosed in a little wooden box (*Pharm. Zeit*). The pencil is drawn across the seat of the headache, causing at first a burning sensation, soon succeeded by relief of pain. Dr. E. C. Wendt (*New York Medical Journal*, January 25, 1884) has found it of great value. Menthol is sometimes adulterated with Epsom salts, these being insoluble in alcohol or chloroform in which menthol was readily soluble. Samples of fine crystals sometimes had some essential oil adhering to them, a fact to be taken into consideration when making pencils.

Camphorated Chloral in Neuralgia.—Redier (*Medical News*) recommends the following as local applications in neuralgia. They can be also used to prevent pain prior to opening boils:

Chloral hydrat			
Gum camphor	aa	ʒ ij.	
Morphiæ sulph		ʒ ss.	
Chloroform		ʒ j.	M.

This may be painted with a camel's-hair brush over the area affected; allowed to dry and repeated as necessary to render the part insensible.

℞. Ether or chloroform		ʒ ij.	
Camphor		ʒ j.	M.

Apply with a brush

℞. Acidi acetici (cryst.)	part 1.	
Chloroform	parts 20.	

Solve. Apply with a brush.

Calcareous Particles Passed per Vaginam.—The following case was recently cited by Dr. W. Goodell (*New York Medical Journal*). The previous history had been that of menorrhagia, and multiple fibroids were found in the womb. One of these fibroids had evidently taken on calcareous degeneration, and had subsequently broken down, and discharged these fragments into the uterine cavity. He stated that these particles were not true bone, but merely the product of a disorderly deposit of lime, which possessed none of the osseous ele-

ments, not even cartilage corpuscles. This calcareous degeneration tended to cure the disease by breaking off the vascular filaments of attachment and lessening the nutrition of the fibroid. In one instance, the specimen of which was now in the museum of the University of Pennsylvania, he had seen three fibroids wholly converted into stone. These stones were, however, very light, and not like those of the bladder. The expulsion *per vaginam* of these uterine calculi greatly puzzled the older anatomists.

Excision of the Shoulder.—Dr. W. Stokes (*British Medical Journal*, Nov. 10, 1883) concludes: 1. The operation should be performed by the Ollier-Langenbeck method, avoiding, however, in pathological resections periosteo-capsular preservation. 2. The excision of bone should be as limited in amount as is compatible with the removal of disease. 3. Preservation of the periosteum is only indicated in traumatic resections, where there is much involvement of the shaft of the humerus. 4. The use of splints is not indicated in the after-treatment of resection shoulder-joint. 5. Rapidity of union is strongly indicated after this operation, and can best be obtained by a rigid adherence to Listerian antiseptic practice. 6. Passive movements, gymnastic exercises, and massage, should be commenced as soon as possible after the operation. 7. The statistics of the operation, whether done for traumatic or pathological, suppurative or non-suppurative, lesions are eminently satisfactory and encouraging.

Belladonna and Ammonia Bromide in Whooping Cough.—Dr. Keating (*Southern Practitioner*) says that he treats whooping cough as follows: A steam atomizer is charged with the following mixture: ℞. Ext. Belladonnæ fluid, gtt vi. to xii.; ammonii bromidi, scr. i; potass bromidi, scr. ii.; aq. destillat, ʒ ii. Misce. The atomizer is placed on a table before the patient, the spray rapidly carried over into the face, mouth and lungs of the child, and continued till the pupils are dilated by the belladonna. The application is to be made morning, noon, and at bed-time. It has cut short the spasmodic cough within two or three days, uniformly and almost to a certainty.

Heat and Chancre Virus.—Aubert (*Lyons Méd.*, Aug. 12, 1883) claims that the virulence of the chancrous virus is diminished or destroyed when subjected for a length of time to the normal temperature of the interior of the human body. Matter taken from the surface of the sore was placed in vaccination tubes. It was found that after exposure of from sixteen to eighteen hours to the normal temperature of the body the pus globules became disintegrated and the virulent properties of the matter entirely disappeared, so that it was no longer inoculable. Aubert claims that these experiments explain why chancre poison does not penetrate the interior of the body. Only in situations so exposed to atmospheric influences as to maintain a temperature considerably lower than that of the interior of the body that the disease is able to take effect. Buboes occur only in the glands nearest the surface. Internal cervix chancres are of short duration, their appearance often changing completely in twenty-four hours. Anal chancres are confined to the more exterior parts. The simple buboes, associated with the chancre, are about as common in this connection as the virulent ones. Dr. Aubert claims that when they are simple in character their inception has been accompanied with fever, involving a sufficiently high and prolonged temperature to annihilate the virulence of the virus conveyed to the inguinal glands. If auto-inoculation be practised during an intercurrent febrile attack, it will not succeed; when the fever has passed it may be practiced successfully. The reason why the original chancre is not similarly affected during fever, is because (aside from the fact already mentioned, that the region

it affects is apt to be more under the influence of the surrounding temperature of the atmosphere than the rest of the body) the virus would naturally be more easily destroyed when first inoculated than after it has had time to establish itself. Chancre has its virulence obliterated by an attack of erysipelas or gangrene involving its site. In situations where the normal local temperature is habitually low, the chancres are most apt to be large and severe in character. Dr. Aubert, therefore, aims to imitate the action of an attack of erysipelas affecting the region occupied by the chancre. Simple heat, however, applied superficially, is not enough, but should be supplemented by a more general elevation of temperature. The patient is kept in a sitz bath, or better, the "half" bath, at a temperature of from 104° F. to 107° F. for several hours, the part affected, as well as a considerable portion of that region of the body, being immersed in warm water.

To Detect the Tubercule Bacillus.—Dr. A. Abrams (*Pacific Medical and Surgical Journal*, Nov., 1883) says that the following is the best method: A thin layer of sputum is to be spread out on a cover-glass, then carefully drawn through a flame until dried. After this has been accomplished, the coloring process is next in order, and for this purpose any of the basic aniline colors may be utilized, preference being given to a concentrated solution of gentian violet or fuchsin or aniline water (a saturated filtered solution of aniline). Into any of these solutions the cover-glass is now introduced, and allowed to remain for about twenty-four hours; but, should the coloring take place at a temperature of about 122° F., an hour will amply suffice. The preparation is now ready for decoloration, and for this purpose a 20 per cent. solution of hydrochloric acid is to be ready, into which the cover-glass is introduced and allowed to remain until the specimen assumes a yellowish color. It is then removed, washed in water and exposed to the atmosphere until dry. Then a drop of Canada balsam is added, and the whole introduced on a slide, when it is ready for examination. By this method it will be found that the tubercle bacilli alone present themselves in the field of vision as intensely stained rods; whereas all the other constituents of the sputum are decolorized. These directions are only achieved by a nicety of manipulation, a good microscope with accessories, and an immoderate quantity of patience.

Melancholia Attonita, Stuporous Insanity.—Dr. J. W. Wigglesworth (*Journal of the Medical Sciences*, October) concludes that from the ill-defined assemblage of cases called "melancholia," "melancholia attonita," and "acute," a group has to be distinguished which constitutes a definite clinical and pathological entity. Second. That this group is characterized by the association of more or less self-absorption passing into vacuity with a definite affection of the muscular system by muscular tremors and muscular rigidity. Third. That the pathological basis of the same is best marked in the so-called motor cells, and possibly originating in them, but having a tendency to spread beyond their area.

Long-Retained Pessaries.—It may prove useful, as furnishing the key-note to some obscure cases of ill-health, if we bear in mind that cases are on record where a pessary has been introduced to correct some uterine deformity, and, being forgotten, has been allowed to remain for years in the vagina, acting constantly as a foreign body, provoking inflammation and suppuration, and producing a variety of morbid phenomena through the agency of reflex nervous influences. Dr. C. F. Paine reports a case in the *Texas Courier-Record of Medicine*, November, 1883, where a Hodge pessary, forgotten and worn for thirteen years, has, he fears, permanently injured the woman's health.

SELECTIONS.

Recent Progress in the Treatment of Thoracic Disease. By Frederick C. Shattuck, M.D.

INCISION OF THE PERICARDIUM.

Since the case of Rosenstein* three others have been reported. Partzevsky† communicated to the Moscow Physico-Medical Society the case of a man of twenty-three who, four years previously, had gone through an attack of right pleurisy with obliteration of the cavity, partial atelectasis of the right lung, chronic inflammation of its apex, and contraction of the right summit of the chest. He entered the hospital with the signs of left pleuritic and pericardial effusion of recent origin, and absorption soon began, progressing rather more rapidly in the pericardium than in the pleura, indeed, within six weeks all traces of pericarditis disappeared. In the seventh week, however, it was evident that the fluid was reaccumulating about the heart, although absorption was still progressing in the pleura. On the sixty-third day after admission the pleural effusion was gone, but the area of cardiac dulness extended from the right nipple to the left axillary line and upwards as far as the second rib; the cardiac region bulged outwards; the apex beat had disappeared, the heart sounds were almost inaudible, and the pulse could scarcely be felt; respiration 52; there were extreme cyanosis and general weakness; swallowing was almost impossible. Under these urgent circumstances the author decided to remove pressure on the heart by tapping, and after an exploratory puncture with a hypodermic syringe an aspirator needle was inserted in the fourth [left?] interspace, within two inches of the sternum, and about two and one-half pounds of brownish, turbid, serous fluid were drawn off. This was immediately followed by great relief (pulse full, regular, 96; respiration 36; decrease of cyanosis; easier deglutition), which, however, lasted only three days. On the fourth day the patient had a chill and a morning temperature of 102.7° F., and on the sixth the pericardium was again greatly distended. The symptoms of incipient pulmonary œdema led to a second aspiration on the eleventh day, but only three ounces of pus were obtained. On the following day, the condition of the patient growing worse, an incision was made in the fourth interspace, and two drainage tubes were inserted, through which an enormous quantity of pus escaped. The pericardial cavity was washed out with a salicylic solution (one to three hundred), and Lister's dressing was applied. During the next ten or fifteen hours the patient felt much better, but a sleepless night had utterly broken his remaining strength, and he died in a state of collapse about thirty hours after the operation.

The autopsy showed that the pericardium, which contained three ounces of pus, was greatly thickened and covered with false membrane, that the right ventricle was hypertrophied, and the cardiac muscle fattily degenerated. Both pleural cavities were obliterated, and the lungs atelectatic and œdematous. The liver was pushed up to the fourth rib, and fixed there by adhesions to the diaphragm.

Of the author's conclusions we have space only for the fourth: "In cases of purulent pericarditis it is perfectly justifiable to try an early operation in order to prevent dilatation and fatty degeneration of the heart, which generally supervene here very rapidly."

The second case was reported by Dr. West‡ to the Royal Medical and Chi-

* Vide *Boston Medical and Surgical Journal*, 1882. Vol. cvi., p. 158.
† *London Medical Journal* February 15, 1883.
‡ *British Medical Journal*, 1883, i., 814.

rurgical Society. A boy, aged sixteen, had a large pericardial effusion. The symptoms became so urgent that paracentesis was performed. Pus was obtained. Three days later paracentesis was again performed, and subsequently the pericardium was laid freely open, evacuated, washed out, and a drainage tube inserted. The temperature never rose, and the boy recovered entirely in five weeks, the only feature of interest being an attack of general urticaria, which came on a week after the operation, and lasted three or four days. The following points of special clinical interest were emphasized: 1. The absence of any special signs to indicate the nature of the effusion. There was no friction to be heard before the operation, or mill-wheel sound characteristic of hydro-pneumo-pericardium after the free incision. 2. The place selected for puncture and incision was the fourth interspace immediately below the left nipple. 3. Fourteen ounces were removed by the first tapping, two quarts by the free incision. 4. A peculiar epigastric prominence noticed before paracentesis disappeared after operation. 5. An attack of urticaria. 6. The pulsus paradoxus, which was constant up to the time of the free incision, disappeared immediately after.

The discussion which followed the reading of the paper was an interesting one, but we can only notice the remarks of Mr. Hulke, who advised the very cautious use of the trocar or needle, and careful dissection down to the pericardium in cases of free incision. He had himself, after medical consultation, in a case which was believed to be one of pericardial effusion, once inserted a trocar and canula somewhat bodly, and the withdrawal of the trocar had been followed by a jet of blood, which gave him great anxiety, but, happily, relieved the patient. A subsequent post-mortem examination showed him that he had punctured the right ventricle, and that the case was one of universally adherent pericardium.

The third case was reported to the Pathological Society of London, also by Dr. West.* The patient was a boy of fourteen who, ten days after a severe fall, developed an abscess in the left shoulder, which was incised, and subsequently counter-opened. In addition to pyrexia there were cyanosis and dyspnœa with the signs of pneumonia of the left base. Some days later a few ounces of serum were removed from the left pleura. A second puncture a little later revealed no fresh fluid. The pericardium was felt to be full of fluid by the finger inserted into the side wound, and was incised, with the removal of twenty-four ounces of pus. The patient was relieved for the time, but the dyspnœa and cyanosis continued, and the patient subsequently died in the ninth week from the accident. The autopsy showed a large abscess in the left thigh, and inflammation of the left ankle-joint. There was extensive thickening of the mediastinal tissues, the arteries being deeply imbedded in it. The left pleura was divided by adhesions into three parts, each containing serous fluid. The pericardium was in great part obliterated except at the apex; there was no obstruction of any of the vessels. Dr. West drew attention to the fact that in this case incision had entirely relieved the pericardium, which was rapidly tending towards obliteration fourteen days after the operation, and that death appeared to be due rather to the other lesions present. Dr. West held that surgical interference with the pericardium is not more dangerous than (if, indeed, so dangerous as) that with the pleura or peritonæum.

[Of the four recorded cases in which the pericardium has been incised, two were uncomplicated and recovered, two were complicated and died, though apparently in spite, rather than in consequence, of the operation. In West's case the cause of death was pyæmia. In Partzevky's there would seem to be a possibility that the patient might have recovered if the operation had been done earlier. These facts justify the measure, and indicate that it is likely to become a generally recognized method of treatment. As far as we know the experiments of Dr. Rotch, of this city, which tend to show that the fifth right interspace near

* *Lancet*, 1883, ii., 991.

the sternum is the safest place for aspiration in pericardial effusion, have not yet been put to the crucial test in the living subject. Whether this be the place of election for tapping or not, it is obvious that a free incision into the pericardium should be made in the left side.—REP.]

AN ELASTIC RESPIRATOR AS A MEANS OF TREATMENT FOR EMPHYSEMA.*

The shortness of breath which characterizes this disease is largely due to the inability to expel enough air from the chest to make room for a fresh supply, the elasticity of the lungs being lost, and the thorax becoming fixed in the position of full inspiration. The idea of aiding expiration by artificial means is no new one, but pneumatic cabinets and Waldenburg machines for compressing and rarefying air are not portable, a fact which greatly limits the real service these methods, and especially expiration into rarefied air, may be made to render. Impressed with the desirability of having at command some comparatively simple means for exerting a more constant expiratory force to emphysema, M. Féris conceived the ingenious plan of applying a sort of truss to the chest much like that in use for double inguinal hernia. A pad is fitted to the spine with a spring extending from either side across the axillæ to the front of the chest, where the springs terminate in pads like those of a common truss, but larger and less thick. The two anterior pads are fastened together by a strap, and further held in place by straps over the shoulders. The author asserts that the apparatus, when well constructed, can be worn under the clothes without betraying its presence. That it may fit the chest so accurately as neither to be uncomfortable or unsightly, and not to embarrass the respiration, it should be made to order for each patient. The pressure should, moreover, be applied where the emphysema is most marked, though those parts are generally the infra-clavicular regions. The action of the apparatus as an aid to expiration is readily understood; of course in inspiration the force of the spring must be counteracted, but this is practically no drawback, as in these cases the inspiratory forces are usually increased by exercise.

M. Féris says: "I have used the elastic respirator in thirteen cases of emphysema. From the moment that the apparatus is fitted respiration is established, and forthwith the patient exclaims that his oppression is gone. He can then walk, go up stairs, and sometimes even run, with less fatigue." A patient entered the hospital at Brest for advanced emphysema, and with the aid of a double inguinal truss, improvised temporarily as a respirator, went about the house with comparative comfort. He soon asked permission to go about the town, but the truss caused such an apparent deformity of his person that he did not venture to wear it in the street. He therefore went without it, but after going three hundred yards or so was so oppressed for breath that he was obliged to invoke the aid of a nurse to return. He then put on his chest truss, sallied forth, and remained seven hours.

Stethographic observations show that the respiratory movements are enlarged and diminished in frequency while the apparatus is worn. It is claimed, moreover, that the invention has also the following merits:

After being worn for eight or ten days the prominence of the chest in the emphysematous regions disappears, and it becomes very difficult to determine by inspection alone the seat of the changes. Furthermore, asthmatic attacks are lessened in degree and frequency, a result not to be wondered at when it is remembered that inspiratory spasm is the characteristic of such attacks. Again, the tendency of emphysema to spread is checked, and it seems probable that the impediment to the pulmonary circulation resulting in engorgement of the right heart is diminished.

* Féris, *Bulletin Gen. de Therapeutique*, 1883, vol. cv., p. 104.

As for contra-indications, the author thinks that none really exist. A little time is needed for the patient to grow accustomed to the presence of his truss. The maximum benefits are to be looked for in subjects under middle life with emphysema of the upper lobes. Still the apparatus is worth a trial as a palliative in general emphysema, or in that form which is met with in old people whose costal cartilages are ossified. In one patient who had attacks of hæmoptysis before using the apparatus they were certainly not aggravated by it.

PULSATING EMPYEMA.*

The writer has collected twenty-seven cases of this rare and interesting condition, four of which have been under his own observation. In three of these four, careful post-mortem examinations were made, and their results were so nearly identical that M. Comby is led to think the following physical condition necessary for the production of pulsating general empyema; the left lung, namely, must be thoroughly compressed and also adherent to the pericardium, in order that the cardiac movement may be transmitted through it to the fluid in the pleura. In ordinary cases of large effusion the lung is compressed toward its root, and the heart is forced independently toward the side opposite to the fluid, but in ordinary cases the fluid never pulsates; this can only occur when the pericardium and lung are adherent. The pulsation sometimes extends over a large area in the lower portions of the affected side, and is sometimes limited to a local swelling which has no constant position in the thorax. Cases are recorded in which the pus burrowed downwards and formed a pulsating tumor in the lumbar region.

With regard to diagnosis, the only affections which can well be mistaken for that under consideration are pulsating pneumonia, which is extremely rare, pulsating cancer of the lung, and aneurism of the aorta. As an aid which may be of service for the differential diagnosis in doubtful cases it may be mentioned that a murmur, so often heard over aneurisms, and not unknown over soft cancers, has never been observed over pulsating empyema. One would think there should be no great difficulties in the distinction between these diseases, and yet in several cases the abscess was allowed to open itself for fear that it might be an aneurism. One of these merits brief notice. A woman received a blow, and six months later began to complain of pain in the side; after a time a hemispherical tumor appeared at the left border of the sternum, between the third and fourth ribs, pulsating synchronously with the heart, and transmitting the heart sounds. An abscess was thought of, but aneurism being feared, the patient was kept in bed for three years, the tumor growing all the time in size. The skin finally inflamed, and the pus began to discharge, but a fistulous opening persisted for a long time, and six years after the pains in the side came on the patient was sufficiently recovered to resume her occupation as a washerwoman.

The prognosis as regards recovery is very unfavorable. The existence of pulsation shows that the disease is of long standing, and that the left lung has consequently contracted such adhesions that it cannot be expanded. Little can then be hoped from incision and drainage unless, perhaps, generous resection of the ribs be also practiced. The few instances in which good results have been obtained seem to have been examples of circumscribed empyema near the heart and transmitting its pulsation. "Although the prognosis is fatal it is not the same for all cases; some remain long stationary, and tolerate their effusion and pulsation for several years, the right lung preserving its integrity, but if the right lung is diseased or the seat of tubercles the end comes in some months or weeks."

* Les Pleuresies Pulsatiles (empyeme pulsatile), Comby, *Archives Gen. de Med.*, 1883, November and December.

To sum up, pulsating pleural effusions occur only on the left side, are always purulent, indicate hopeless compression of the lung, and are incurable.

ANTISEPTIC INHALATIONS IN THE TREATMENT OF PHTHISIS.

English and German journals have of late years contained a number of articles advocating the more or less continuous inhalation of carbolic acid and other volatile antiseptics in phthisis, a method of treatment which is not unlikely to come more into vogue with the development of the doctrine of the bacillus tuberculosis. It is found that pure carbolic acid can be inhaled for hours from an oro-nasal respirator without causing irritation of the air-passages, and some observers, prominent among whom are Burney Yeo, Curschmann, and Fraentzel, are favorably impressed with the results. Dr. Hassall,* of London and San Remo, has published several articles which tend to show that the application of volatile antiseptics to the respiratory tract by means of respirators and atomizers is inefficient. One of the methods pursued in his investigations was to charge a respirator with a known quantity of the agent, allow it to be worn for a fixed time, and then determine by quantitative analysis the amount of loss of the antiseptic in the form of vapor. The loss after periods of one and two hours was found to be comparatively trifling, and the sputum raised after the respirator had been worn never had the least smell of carbolic acid. He found, however, that when the agent is used on a series of cotton screens suspended in a room at a temperature of about 70° F. it is almost entirely volatilized. Acting on these experiments he has constructed at San Remo an inhalation chamber with a cubic capacity of 1,170 feet, one door and one window, no chimney or fireplace, but a register communicating with a small furnace. With the desire that this method of inhalation may be fairly tested, Dr. Hassall will allow its use to medical men of all nationalities in San Remo, so that any of their patients may make use of it under the observation and guidance of their own attendant.

ENDEMIC HÆMOPTYSIS APPARENTLY DUE TO A PULMONARY PARASITE.

Dr. Manson,† of Amoy, China, read a very interesting paper on this subject to the Medical Society of London. He finds that the expectoration of blood, generally in small quantities and very frequently, and bloody mucus is a common affection in Formosa and Japan, and on examining the sputum from some of these cases under the microscope he discovered the constant presence of peculiar ova, one two-hundredth to one five-hundredth of an inch in diameter, and containing no trace of embryos. After cultivating the ova in water with proper precautions for four to six weeks he was rewarded by seeing in nearly every ovum the development of active ciliated embryos closely resembling those of Bilharzia and other distoms. Soon after this period the embryo succeeds in breaking through its investment, and rushes through the water, assuming various shapes, with its cilia in constant motion, apparently in eager search of its intermediary host. Through a fortunate train of circumstances, for the detail of which we have here no space, Dr. Manson obtained a specimen of the parent worm, which after having been some time in spirit measured half an inch in length by a sixth of an inch in breadth, and a third of an inch in thickness. It was sent to Dr. Cobbold, who pronounced it a new species, and named it, after the discoverer, Distoma Ringeri. It seems probable that the parasite is communicated from one person to another in some way by means of water, and the affection appears to be a counterpart of endemic hæmaturia. China, as far as is

* *Lancet*, 1883, i., 765. *British Medical Journal*, 1883, ii., 869. *Lancet*, October 6, 1883. *Lancet*, 1884, i., 106.

† *Lancet*, 1883, i., 532.

known, is free from the disease, which is a very chronic one. Dr. Manson thinks that the constant or repeated small bleedings cannot fail in certain cases to produce, in time, a state of intense anæmia, rendering the subjects of it very liable to attacks of dangerous forms of other diseases. Two patients were sent to him from Formosa, and he kept them in his house for some time for purposes of study, treating them by inhalations of atomized solutions and infusions containing quassia, kousso, santonin, turpentine, and sulphurous acid. By these means one patient was apparently cured, but the other was not benefited.

NITRITE OF SODIUM IN ANGINA PECTORIS.

We now know that other nitrites besides that of amyl dilate the smaller arteries and lower the blood tension. It has been found that nitro-glycerine is a valuable remedy in angina pectoris, while Reichert and Weir Mitchell have used nitrite of potassium for epilepsy, and shown that it has effects which are almost identical with those of amyl. Dr. Hay* has used nitrite of sodium in one case of angina with marked good effect, complete relief following within two or three minutes after administration. In the same patient amyl gave only partial relief, and nitro-glycerine, though equally efficacious with the sodium compound, produced disagreeable throbbing in the head, which the latter did not. The effects of the sodium were also more lasting than those of the amyl. Of the pure drug one grain is probably as much as it is safe to give at first, but the pure drug is not easy to obtain. Dr. Hay found that a specimen obtained from a London manufacturing firm of the highest eminence did not contain more than thirty-three per cent. of the *nitrite*, the rest being *nitrate*. This fact should be borne in mind, and allowed for in case small doses prove useless. The drug is freely soluble in water. [It may be well to repeat a caution which has already appeared in print. In the last edition, namely, of Ringer's "Therapeutics," the dose of sodium nitrite is inferentially stated as *twenty* grains, an amount which might produce disastrous effects if the sample were pure. Drs. Ringer and Murrell† gave fifteen-grain doses of the impure drug to hospital out-patients, and reported the cases briefly, stating the disagreeable sensations produced in some patients. An outcry was made in the daily papers, and severe strictures were passed upon physicians experimenting on patients with drugs the properties of which are unknown. It was thought best to bring the matter to the notice of the government of the hospital, which formally exonerated Drs. Ringer and Murrell from all blame.—REP.]—*Boston Medical Journal.*

ON SOME MINOR AILMENTS. By J. MATTHEWS DUNCAN, M.D., F.R.S., Physician-Accoucheur and Lecturer on Midwifery at St. Bartholomew's Hospital. Selected from the *Med. Times and Gazette.*

WHEN I use the term "minor ailments" to designate the subject of this lecture, I take the physician's, not the patient's, point of view. To her the matter in hand, however slight in the physician's estimation, is most interesting and important, and cannot be, without care, spoken of as minor. Such ailments may be painful and grievous while they last, but they do not destroy general health, and they are not fatal.

Patients are often very inquisitive into the causes and nature or importance of diseases, and physicians are sometimes too facile in naming them, or in concurring with patients regarding them. Here, as on many other occasions in the course of medical practice, the physician should be firm in adhering to pure truth, not forgetting that all kinds and degrees of falsehood, all half-true statements, even when made with good motives, all statements, true only as so many

* *Practitioner*, 1883, i., 179.
† *Lancet*, 1883, ii., 766 and 880.

words, should be avoided, should also be abominable in his eyes. It is true, and never to be forgotten, that a lie is always a lie, and never does the least good, now or in the future. Always does harm, now and in the future. Never allow yourselves to be shaken in these principles by desire of any kind of time-serving. Great medical men have boldly taught that the physician may not only conceal the truth, but, in certain circumstances, declare a lie. I avoid mentioning the name of one most highly respected, who advises this course in the case of cancer of the liver, asserting that the entertainment by the patient of false views as to the nature or danger of his disease, will materially and favorably modify its course, and secure temporary ease of mind for him. The pathology, therapeutics, and morality are, I believe, all most bad; experience has taught me quite otherwise; and, besides, if you allow yourself to lie once, why not ten times? There are cases in casuistry in which you may be driven to make a statement that is not true, but they almost never occur in medical practice; and the only justification of this conduct is the avoidance of a graver falsehood, for there are degrees of importance of lies. You have it always in your power to be silent, and it is scarcely possible to construct a lie out of that negative. If you wish to impress your patient with a due sense of the gravity of her case, you may do so without bluntly surprising her with a terrible announcement, as by calling a consultation, or using some other such indicative or preparatory measure.

I make these statements preliminary to some remarks on minor ailments, because it is more frequently in them than in graver ailments that patients are injuriously, and, I am sorry to say, often cruelly misled.

I have said that patients are often ingenious and inquisitive as to causes: the physician is most anxious to forecast consequences. With this forecast or prognosis, so far as he is concerned, I have now nothing to do. But his patient is sure to ask questions regarding her fate, or to argue regarding the gravity of her case from his expressions, oral or other, and from his conduct. In every case a physician is instructing his patient regarding her disease; and if he instruct her badly, he may cause her much evil. In the case of minor ailments it is common for this evil to be produced by an exaggerated anxiety, or by a costly and perhaps fussy and frequent interference of the physician. Many minor ailments are in this way generated or aggravated, or rendered inveterate —cases that a little kindly consideration and careful conversation would dissipate, are changed from molehills into mountains.

You will meet with cases of amenorrhœa in healthy girls, whereof the cure is sought with an enthusiasm that is explained only by perhaps accidentally finding out that the patient or her guardian regards it as a disease of the highest degree of gravity. A woman with no uterine complaint whatever, and in perfect health, is told that her womb is displaced, and immediately she is transformed into a great sufferer eager for cure, willing to endure the martyrdom of enforced rest and local treatment to gain what can never be gained in that way; she has been badly instructed by her physician, and this bad instruction will render her return to health a matter of great difficulty, a result to be secured only by overthrow of her confidence in her previous instruction. Cases are quite common where women have great pain and misery, which are entirely "imaginary," as they say, yet real, and which are cured at once by the assurance pressed into their minds that they have not cancer—by their abandoning an erroneous idea.

There are many minor ailments, chiefly in the forms of aches or pains, for which the best treatment is to coax the patient into neglect of them. Let them alone as far as possible, for the more attention is drawn to them the worse they will be, and the longer will they last.

To deal wisely and boldly with minor ailments, it is necessary that you should

previously make yourself well assured as to the nature—that they really are minor, and, if, possible, exactly what they are. Often you cannot ascertain what they are, while various conditions of them satisfy you that they are minor.

NEURALGIA OF A LABIUM.

I have never seen any neuralgia more intense than that of the cord in the male. One case in a clergyman I can never forget, it was so very severe. In woman I have only seen it distinctly a few times. The worst case was that of a stout old lady liable to bronchitis and asthma. In her it came on only occasionally, but when it did come it was so severe as to cause much alarm; the pain ran along the cord, or rather the round ligament in the right inguinal canal, and was most severe in the corresponding labium. It was soothed by kind attention, hot bathing being generally used, and sometimes anodyne applications to the skin.

COMMENCING HERNIA.

All pains about the external inguinal opening are not neuralgic, nor inflammatory. I remember well the case of a sensitive young lady whose pains had been very puzzling to her physician, who had reasons for avoiding strict local inquiries. She was indeed sent to me to have these inquiries made, because much and varied treatment by medicines and rest had failed to give any relief. The pain was confined to the region of the femoral opening on one side; rest removed it, exertion induced it, coughing made it worse; and a strong impulse was felt in the part by the hand applied when a deep cough was made. Knowledge of the seat and cause of the pain was nearly enough for its cure; and complete relief was got by wearing a truss. Cases of a like kind are not very rare.

NEURALGIA OF BONE.

When a bone of the pelvis has been injured, the part, sometimes after complete recovery so far as manipulative examination is concerned, retains a morbid sensitiveness or weakness. It is not swollen, but it is liable to ache severely or be painful. Cases of this kind in bones of the limbs I have known to be successfully treated by laying the bone bare by knife, raising the periosteum, and gouging or chiselling off the surface of the affected part. In my cases I have not resorted to this, and I may best and most briefly tell you all I know of the matter by giving a few details of two.

A fine healthy young woman had a first labor, managed by a skilful accoucheur, natural in all respects, except that delivery was completed by short forceps. At the time of delivery nothing special was noted as to wounding; but the patient felt a deal of pain in the private parts, on the left side, during all her recovery. She got up, however, and was well and strong, but as soon as she began to walk, the pain in the left labium recurred, and was increased in severity as she increased the use of her legs. The pain was now ascribed to weakness, now to falling of the womb, now to ulceration, and was treated accordingly, but with no good effect. Careful local investigation discovered the labium to be internally cleft, and the deepest part of the cleft quite healed, healthy-looking, but adhering to the descending ramus of the pubes. The bone was scarcely tender, but whenever it was touched the patient at once, and again in subsequent examinations, declared that that, and that alone, was the seat of pain. The bone was occasionally tender after great exertion, as in dancing; it was always and exclusively the seat of the aching pain. The labium had been cut by the anterior margin of the left blade of the forceps,

and healing had taken place with adhesion of the cicatrix to the subjacent bone. Complete satisfaction as to seat and nature of the disease was half the cure. Avoidance of long walks and of much dancing, hot bathing at bedtime, tonics, iodide of potassium, were all used, and did not bring quick relief. It was not until these cures had been continued more than a year that the whole matter was forgotten. Now she never feels it.

A middle-aged woman, a clergyman's wife, was thrown out of a little pony phaeton and fell on her sacrum. After the accident she had continued pain in it for a long time; and the pain recurred after intervals of health, varying in length. When it came, she felt the part to be a little tender, but not swollen. Latterly, after some years, she was led to believe that now her suffering was not from the injury, but from some disease of the womb. Then she consulted me, and it was very easy to make out that the pain was in the bone, exactly where the injury had been inflicted. There was no uterine disease, and the conclusion was inevitable that the case was one of neuralgia consequent on mechanical injury. With assurance on this point she was quite satisfied, and went away with some directions as to the treatment when the aching came on.

Perhaps this disease should be called chronic ostitis, not neuralgia; I do not here attempt to decide.

RHEUM OF A SACRO-ILIAC JOINT.

This disease is common, and often mistaken as a sacrache, and is indicative of some uterine or ovarian affection. I know it well, for I frequently suffer from it, generally in the right, rarely in the left, less rarely in both. It is a rheumatic ache, sometimes nearly as commanding as a bad lumbago, produced by any bodily movement that causes pressure on or movement of the joint. When a woman has it, she attributes much importance to it, not as a pain, but as an indication of some latent internal disease of which she has alarm and dread, naturally fostered by ignorance. When she comes to you, you must carefully investigate it and give her good information and advice.

It is not enough to make out that the region of one or other or of both joints is the seat of pain, for ovarian disease may cause that; nor is it enough, even if, in addition, the pain is aggravated by the erect position or by walking, for that may be also a reflex of ovarian disease. But if, still further, you find the joint is tender, perhaps a little swollen, and if you find that the least movement of it causes pain, you may be pretty well assured; and you hold the case well ascertained if you find, on examination of the pelvic excavation, that there is no disease to account for it. In this affection your examination discovers ordinary, not surgical or morbid, mobility of the joint; and when describing looseness of the joint I told you how to make out its mobility. One source of error in this examination you must note, namely, that the pain is induced by pressure on the anterior iliac spine, and the woman may say the pain is there; but with care, you make out that the pain is only produced by such pressure on the anterior iliac spine as moves the bone at the sacro-iliac joint, and that pressure on the ilium that does not move the joint is not painful.

NODES OF CONNECTIVE TISSUE.

These are indurated masses, not very hard, irregularly rounded or spindle-shaped, of size varying from that of a bean to that of a hazel nut, generally painless, sometimes tender. There may be only one, or several may be in the same neighborhood. They have not the characters of neuroma. They may disappear as they come, without known cause.

This disease I have rarely seen, and, as far as I know, it has no direct prac-

tical importance, except when the little masses are tender, or when the patient happens to find them, and becomes anxious as to their cause and nature.

We had lately a case in "Martha." The woman had been long in the ward, suffering from parametritis and the albuminuria which occasionally accompanies it. She made a good recovery, and before going away called attention to little, tender lumps. They were three in number—two just above the posterior superior spine of the ilium on the right and one a little higher on the left.

I have seen a case in which they were situated in the sub-cutaneous cellular tissue over the sacrum and adjacent part of the hip. In another the node was the size of a pea, and situated a little above the middle of Poupart's ligament.

PERINEAL SWEATING.

In inveterate cases, however much they may be minor, it is necessary to enter minutely and carefully into every particular, and this is true of none more than that of "whites." A patient will add, as a tail to her case, that she has whites, or she will say she is cured, all except whites; or she will complain simply of very bad whites. By this she implies that she has a large amount of unhealthy discharge from the vagina, white or nearly white, and this she fears, understanding that it is very dangerous, or, at least, weakening. Probably, also, she has used many diverse lotions without avail for a lengthened period.

Now, it is common to find that this case has been quite misunderstood, and consequently mismanaged; examination by the speculum discovering no mass of mucus or the matter of whites—no such quantity as would cause discharge. It is, indeed, not rare with such complaint to find the passage drier than natural. Such women it is sufficient to tell that they have no whites, that there is nothing to be cured, that they should give up the use of injections of every kind, and it is good to add that, if all proves not to be right, the patient should return with the whites present, and with the diapers worn, or any evidence of the presence of the disease.

When she comes back you may find that she has had some whites after a long walk or long standing—a result which is scarcely to be deprecated. Or you may find some superficial irritation of the vestibule or vaginal orifice, from which a white or non-purulent discharge has come, and which may be easily cured by an appropriate application; and the same may be said of some eczema of the vulva. Frequently all she produces is a cloth damp with perineal sweat, and often also stained brown by it. Lately we had in "Martha" an aggravated case of this kind from a distant county. As we could find nothing, the woman was pressed to produce the evidence of her disease for which she had been long treated, and which so alarmed her as to make her glad to encounter the inconvenience and expense of coming to the hospital. She said it came on when walking, and she was accordingly sent to walk; and with an air of triumph, she then showed a diaper with a small brown stain of feculent odor. The woman was quite simple and ingenuous, and believed that this stain was vaginal whites. It was plainly some brown mucus from the anus.

When women get fat and sweat freely they often have such moisture about the anus and genitals. This is very disagreeable to them, and, unless correctly instructed regarding it, they are easily induced to believe it is morbid, and the result of vaginal or uterine disease. Both men and woman, however careful and cleanly, have their linen moistened, and often stained brown, especially if they have walked much; and such discharge a woman is easily led to believe to be whites, and an indication of disease of the womb.

Sudden gushes of watery fluid on the linen are sometimes otherwise explained. Not very long ago a patient consulted me for this, believing that it came from an ovarian cyst, and required constant treatment to prevent the

cyst closing. I could find no disease by local examination, but I was also told that when it occurred the patient was very alarmed and nervous, and this led me to suspect that it might be urine. The fluid was collected in a cup, and found to have all the qualities of urine. The diagnosis communicated to the ingenuous patient that her disease was merely nervous discharge of urine was enough for her cure, and she went away rejoicing.

But I must further add that some sudden copious watery discharges I have been quite unable to explain, and have tried to satisfy myself by supposing they were from the glands of Cowper. The neck of the womb may suddenly secrete copiously, but the secretion is very viscid and not in such large quantities, so far as I have observed, as to explain the gushes I am speaking of.

Cases of this kind may be sometimes minor examples of hydrops tubæ profluens. This is a disease probably more frequent than is generally supposed, but certainly very rare in its distinct and greater forms. A case lately came under my notice where the gushes of watery and slightly viscid fluid were great, and had a general history, as follows: Gradually increasing hypogastric pain and general constitutional disturbance, then copious flow from vagina and relief for a varying length of time. When the woman was at ease there was to be found only an enlarged uterus; when she was in pain and before the discharge there was distinctly connected with the uterus and lying on its left side a large and increasing tense and somewhat tender cyst.

SACRACHE AND BACKACHE.

There is no more common, and, therefore, no more important symptom of uterine disease, and especially of disease of the neck of the womb, than sacrache. The pain is dull, or an ache rather than pain. It is situated at or near the base of the sacrum, and, referring to it, the patient puts her hand to the part. I say with emphasis, "at or near," and it is desirable to make this more definite. A pain below the middle of the sacrum is not at or near, and a pain above the middle of the lumbar spine is not "at or near." Such pains and aches do not point to the womb as the characteristic sacrache does, but the characteristic sacrache only points in that direction. It is not in itself nearly sufficient, not even strong evidence of disease of the womb. Occurring in a virgin, it would not alone, unless very severe and inveterate, lead you to make an actual examination of the womb.

Other backaches, that is, pains in other regions of the back, not the sacrache, may accompany uterine disease, but do not point to the womb, are not symptoms rationally held as indicating womb disease. Unfortunately women are at present so under the influence of bad medical instruction that they regard all pains in the back, from the occiput to the coccyx, as nearly sure indication of uterine mischief, and demanding uterine treatment.

The sacrache of womb disease may be constant, but generally it comes and goes. Frequently it is dispelled by lying, is felt on going to bed, and has disappeared before morning, and long standing makes it reach its highest pitch, then it is otherwise, that is, when the ache is worse in the morning before getting out of bed or is relieved by walking. Then it is certainly not uterine.

I have said that you must not regard all sacraches or other backaches as uterine. They are common in men and in women. A weakly woman who attends to all her pains can do no standing or walking without backache, and often it is a sacrache. Especially if she has a long back will she suffer in this way.

The pains liable to be confused with real sacrache are all in the lower back about the lumbar spine. It is only such that might mislead any rational physician. Regarding them, you will get some light from noticing the causes of the same pains in men. Now, I find that weakly men are liable to these aches, sacral or lumbar, on walking or standing, and in many they are produced by excessive venereal indulgence.

ORIGINAL CORRESPONDENCE.

HEPATIC ABSCESS.

AUSTIN, TEXAS, March, 1884.

To the Editor of Gaillard's Medical Journal:

DEAR SIR: At your request I have ascertained the following facts in regard to the life and death of Dr. J. W. Stalnaker, who died in this city, November 11th, 1883.

He was born near Union, Monroe County, West Virginia, on the 17th August, 1831, and was raised in his native State, graduated in medicine at the University of Pennsylvania, March 31st, 1855, was a surgeon in the Confederate service during the war, at the close of which he located in Pulaski County, Virginia, where he married Miss Mary C. Snow, who died during the year 1870, leaving two small daughters. Here he pursued the practice of his profession, until his removal to Austin, Texas, in 1871.

At his new home he speedily acquired an extensive practice, and in 1872 married Mrs. Black, who was a lady of culture, and was highly related in this community. Four additional children were added to his family—two girls and two boys—the oldest of whom, a little girl, died but one or two years before her father.

From 1873 to 1878 he was City Physician of Austin, and was ten years employed by Federal authorities in this district to attend United States prisoners. He ranked very high in the masonic fraternity, and had many warm personal friends. Eleven months before his death he was attacked with dysentery of severe type, which prostrated him and confined him to his bed several weeks, and after this he never fully recovered; he was repeatedly annoyed with some bowel trouble, principally with looseness and tendency to diarrhœa. This state of affairs existed to within a short time before his death. During July last he visited relatives in Virginia, hoping that the rest and change of climate afforded might lead to restoration of his health. He returned in about one month, apparently very much improved. But I am informed by Mrs. Stalnaker that he was all the while a great sufferer, with severe pain over the region of the liver, and that he could not lie on that side. However, he soon grew worse, and was confined to his bed until his decease. At times the pain was very severe, requiring anodynes for relief. Hectic fever, followed by profuse sweats, and often attended with rigors, ensued.

He was attended by Dr. Swearengen first, he afterwards being assisted by Drs. J. W. McLaughlin, J. M. Litten, T. D. Wooten, and A. G. Stalnaker, of West Virginia, brother of deceased, other physicians, including the writer, calling at times socially to see him. The hepatic abscess, from which he died, did not point toward the external surface,

and did not fluctuate, if at all, below the ribs until few days before his death.

The question of using the aspirator was discussed by the attending physicians, but the operation was not held in much favor, at least by a part of them, as Drs. Swearengen and McLaughlin, but a short time before, had a case where the aspirator was used, but without checking the pus formation. After repeated evacuations of the matter, the patient died. Dr. Stalnaker objected to the operation unless chloroform was used to produce insensibility. He was so much exhausted at this time, it was considered unwise to use an anæsthetic, so that the aspirator was not used. I believe the weight of opinion here is in favor of the trocar in these cases, followed by insertion of drainage tube in order to maintain constant drainage. Before death the existence of the abscess was not definitely determined. It was thought that fluctuation could be felt between the ribs by percussing at opposite sites on this side of the body at the same time so as to produce this result, but this was uncertain. The treatment was of constitutional and of general character, mainly supportive. His temperature was rarely above 102° F., but was several days before death as low as 97°. He seemed to recognize the fact that he must soon succumb to his disease, and requested his wife, as there was some uncertainty about his ailment, and in order to give full development of his condition for the benefit of his fellow-man, that she consent to and obtained her promise to have an autopsy performed on his body; remarking that it would not hurt him, but possibly others might be relieved of the intense suffering he had experienced thereby. Consequently, on the night of the 11th of November, 1883, about sixteen hours after death, Dr. J. W. McLaughlin, assisted by Dr. Litten and myself, made a post-mortem examination of the body.

The liver was but one vast sack containing pus; the entire organ was involved in the disintegration. The quantity of matter was not measured, but was commensurate with the existing condition. The other organs, so far as examined, were healthy. The aspirator or trocar either would have been useless, unless used during the early stages of his disease, and, as remarked before, it was concealed by the ribs, so that nothing short of an exploratory examination by the aspirator during this commencing state would have determined the cause. This has been done here unsuccessfully, where it was pretty certain that an abscess existed, followed by intense suffering, and evidently hurried the fatal result. In the case under consideration there were no physical signs early to point to the latent trouble.

And now some difference of opinion exists as to how long the abscess existed. Some think it resulted from embolism of some of the vessels of the liver after the dysentery, and existed in reality only a short time before dissolution. I have serious doubts of this, and think it possible that this insidious disease may have lurked long in its favored

abode, and have been the cause of all symptoms, including his previous bowel disorders.

Thus passed away a man celebrated for his skill, revered for his social qualities and kindness of heart, beloved alike by the poor and rich, never oppressing any one, but was largely prevented from accumulating riches by his liberality to the destitute.

It was his delight, as it is with many good physicians, to extend the helping hand where most needed, and many have been the beneficiaries of his charity, extended not only in the kind offices of his profession, but also in a pecuniary manner.

Relating to disorders of the liver, I will refer to the case of a negro, aged about 35 years, male, who died in the City and County Hospital, when I was assisted by Dr. Burt, of this city, in performing an autospy of his body. The liver was extensively hypertrophied, passing entirely over and beyond the stomach, taking up considerable space on left side of the body, leading to inflammatory adhesions and deposits, due to its forcible displacement of tissues on the left side of the stomach. The tissue of the liver was indurated and uniformly enlarged, and colored with bile pigment, making it golden yellow.

Before death there seemed to be a uniform tumor, as large as a woman at six months of gestation, where the stomach should be, dull on percussion and without fluctuation. Suspended above the umbilicus, apparently as much on one side as the other, more prominent in the centre. The abdomen below was soft, and presented nothing unusual, but contrasted prominently with the hard large mass above it. Some œdema of the lower extremities existed. I mention this case that it may be considered in the differential diagnoses of enlargements about the stomach.

Respectfully yours,

J. Cummings, M.D.

Onancock, Va., March, 1884.

Dear Doctor: In your Journal of February, 1884, appears an article from the pen of Dr. W. B. Giddings, of Maine, relative to "The Treatment of the Placenta after Delivery;" the gist of his logic being that an invariably contracted uterus, insured slightly by art, was invariably followed by expulsion of the placenta. In his experience of "six years," and "with not a single accident or a delay of more than twenty minutes, with a single exception, and that was thrown off at the expiration of fifty minutes with no other inconvenience than weary waiting."

This will all do very well for natural cases, for Dr. Hodge says: "In natural labor it will be sufficient merely to facilitate delivery by increasing the contractions of the uterus and the voluntary efforts of the mother."

I am not content unless a womb is firm *before* and *after* delivery of the placenta, and I believe its expulsion is generally capable of being ac-

complished by nature, in the main, in normal labor, but if from any cause it ceases, or fails to be so, how long are we to continue the "weary waiting?"

I accept the axiom accredited to Blundell, that "Meddlesome Midwifery is bad," but there are times when we cease to be "meddlesome," though actively engaged in assisting nature.

Has the Doctor never had a case in his vicinity where the womb was contracted, the placenta had passed from the uterine walls, but positively remained (if unassisted) in the vagina?"

Dr. Hodge says: "If, therefore, this body be found in the vagina, a bearing-down effort should be made for its expulsion, as, of course, nothing can be accomplished by the uterus. Inexperienced physicians have waited during hours, and even days, for the recurrence of uterine pain, when a little exertion of the mother, or slight assistance from the practitioner, would have immediately finished the process."

Has he never had a case where, though the womb hugged the placenta as it were, still there was hæmorrhage which yielded after delivery of the mass?

Again, has he never had a case of partially, or wholly, adherent placenta, where one hour, or even three hours, after delivery of child there was no separation until actually severed by art? Now, where this tenacity is not only physiological but pathological, what is to be done? Either leave the woman "uncleared," or scientifically separate the uterine embrace. Which?

Truly yours,

EDGAR W. ROBERTSON.

SKOWHEGAN, MAINE, March 4, 1884.

DEAR DR. GAILLARD: For stopping profuse bleeding from a wounded artery, I have, on several occasions, made use of two pieces of common roofing shingle, of convenient size. For the radial artery at wrist of a common-sized man I make them four inches long by one and a half inches wide; drill with my pocket knife a hole near each corner, pass a string through the holes in the end of the two pieces, and tie them together about one and a half inches apart. Place over the artery lengthwise, in the wound an olive-shaped compress of sole leather or wood, one and a half inches by one inch by five-eighths of an inch, rounded on under side, somewhat like the palmar surface of the first joint of the thumb; place the piece of shingle astride the radius over the compress, and draw the free ends together with a string through their holes until the bleeding stops, and if it does as well for you as it has for me, you will not, at the second dressing, exchange it for anything else. By using elastic bands instead of twine, it would be useful in making pressure over aneurisms.

In popliteal aneurism, the piece to go over the patella may be split in

narrow slips, and kept in their places by pasting a piece of muslin over the inner surface of them. The principal advantages of this "pig yoke" are: It is readily obtained, and does not interfere with the general circulation of blood in the parts as do the ordinary tourniquets. If the device is as new to you as it is to me, you may give it in your valuable JOURNAL.

Very respectfully,

G. A. WILBUR.

PORTSMOUTH, N. H., March 17th, 1884.

To the Editor of Gaillard's Medical Journal:

DEAR DOCTOR: I send you the "Health Monthly," one of those abominable publications that ought to be suppressed and should come under the "Comstock laws."

I hope you will show it up in your next issue. It came addressed to my wife, and might have found its way into the hands of my daughters had I not secured it in time. Have we no protection against these vile sheets?

The only good thing in it is the "fling" which we justly deserve about the mixed State Board. This is the fruit of the New Code—the fruit of abandonment of our old conservatism, the opening wedge we have given to homœopathy—all under the miserable guise of liberalism.

I notice in your February issue the note on "Physicians' and Lawyers' Fees." It must be ever thus, if we go on lowering the tone of the profession by giving up ethical points, and reducing the profession to a trade by specious methods of advertising. If we cannot adopt the English plan of taking the fee at the time of the visit, why not suggest that a scale of prices be established by the American Medical Association for ordinary cases, and that extraordinary prices be charged for extraordinary cases, as the lawyers do? With the present sliding scale of fees, from 25 cents to $10 a visit, the public, and our patients, are too apt to value our services at the lowest sum, and pay or not, as they please. Now, if we had a cash value commensurate with the service, instead of sending in bills like tradesmen, patients would be more apt to pay at once, as few would care to pay nearly double for the sake of a few months' delay. Some such arrangement as this might do:

An ordinary visit, cash $2 to $5. Night visit, $3 to $10. After 6 months, $5 per visit. After 1 year, $10.

	Per visit.	*Single payment.*		
	Cash.	*Cash.*	6 *months.*	1 *year.*
A case of Gonorrhœa	$5	$25	$40	$50
Syphilis	5	50	75	100
Measles	2	30	50	75
Scarlatina	2	30	50	75
Bronchitis	2	30	50	75

And so on for each disease. Many a man would rather have a single

payment of $30 for a case of measles than to make 30 or 40 visits at $2 each and wait months for his pay, and many would rather pay a lump sum at once than be charged 30 or 40 per cent. more by having a bill sent in every six months or year. You may smile at the idea, but really something must be done for the poor struggling medicos, who cannot afford to wait months for their pay and are then expected to take the smallest fee. I merely throw out the very crude suggestion.

Faithfully yours,

J C.

PROCEEDINGS OF SOCIETIES.

[NOTE.—The weekly medical journals very properly publish the proceedings of societies as soon as the societies adjourn. This journal being a monthly cannot, of course, do this; it will publish, therefore, only such carefully obtained proceedings of American and European societies as are most interesting and instructive.—ED.]

CHICAGO PHILOSOPHICAL SOCIETY.

Dr. S. V. Clevenger, Special Pathologist of the Cook County Hospital for the Insane, read a paper on insanity before the Society, January 19, 1883. He considered insanity from the standpoint of the alienist, who comes most in contact with the insane, and the problems suggested by their existence. The following retrospective and prospective generalizations, he said, are afforded from this vantage ground:

1. Scientific inquiry into the causes, phenomena, and treatment of insanity has resulted in an increased number of recoveries, more humane treatment of the insane, and enlightenment as to the prevention of insanity.

2. We are indebted to European research for the greater part of our knowledge of insanity as a disease, and that comparatively little has been done in America to forward psychiatrical studies.

3. Popular conservatism due to lack of information on these subjects is the cause of the national apathy in this respect, but eventually an activity in the prosecution of these studies will prevail in the United States unsurpassed in any other part of the world.

Insanity is the inability to be impressed and to conceive quantitively and qualitatively enough to guide actions in harmony with the individual's age, circumstances, and surroundings, and the failure to properly co-ordinate impressions and frame logical conclusions and actions, except when occurring in the course of sleep, trance, somnambulism, coma, or simple epilepsy, hysteria, and chorea, or during any mental abstraction. But the futility of making precise relative definitions is well known. No matter how thoroughly the pathology of disease of any kind may be known, disease itself is incapable of definition.

The many forms of insanity frequently blend with each other confusingly, but in the main Spitzka's classification is justified by well-defined cases, such as simple mania, simple melancholia, katatonia, transitory frenzy, stuporous insanity, primary and secondary confusional insanity, primary deterioration, terminal dementia, senile dementia, hebephrenia, paretic dementia, luetic dementia, dementia from coarse brain disease, delirium grave, alcoholic, hysterical epileptic and periodical insanities, idiocy, imbecility, cretinism, monomania, traumatic, choreic, post febrile, rheumatic, gouty, phthisical, sympathetic and pellagrous insanities.

After reviewing the history of insanity, and the cruel treatment practised upon patients until even within the last few years, the lecturer paid a tribute of praise to Miss Chevalier, our energetic, enthusiastic lady who has done much toward introducing a reform in the treatment of the insane. The present non-restraint measures were summed up as follows, by Maudsley: "Its principle is to avoid a meddlesome interference; to make all the surroundings of the poor lunatic as tranquil, as orderly, as gentle as may be consistent with his proper care; to counteract the commotion in him by the absence of commotion in what is around him. The lunatic cannot, any more than the sane person, resist the steady influence of his surroundings; he assimilates them unconsciously, and they modify his character for good or for evil." Dr. Clevenger dwelt specially on the duties of a superintendent of an insane asylum, which he thus summarized: "The duties of the superintendent of an asylum are similar to those of the landlord of a giant hotel, and, in addition, he is the principal medical officer. Every alienist of note has given his opinion that the superintendent of an asylum should be supreme in command in the asylum, and that no one disloyal to him should be allowed to remain an instant." Referring to the legal view of insanity, he said: "The strangely erroneous notions of insanity extant originate and perpetuate a very defective jurisprudence. The insane must either be held responsible for his actions, or he must not be. If not, then the question arises, How much insanity is required to exempt one from the consequences of having committed a crime? The ability to distinguish right from wrong is no guide as to responsibility, for an epileptic may be at one time in full possession of his faculties and at another absolutely unconscious of what he does, and epileptics afford us the most terrible form of mental alienation. The literature of this subject is abundant, but we may only glance at portions. The English law seems fair enough which places responsibility if at the time of committing the offense the accused knew right from wrong, but in the determination of this point juries will hang the more insane, and let the less insane escape, often acquitting one and condemning another, both having the same form of insanity and degree of responsibility, and even the knowledge of right and wrong does not bear scientific scrutiny as a means of judging responsibility."

He then went on to speak strongly against an "aggravating feature of law courts"—expert testimony—his opinion being that "as long as men are as they are, physicians as well as others will, for the sake of the fee, and without the least preparation or fitness, enter the courts as experts and pass upon subjects of the nature, literature, and facts of which they are ignorant; and again, men of special training will prostitute their callings by testifying with partisan zeal, suppressing the truth as they know it, and misleading the jury as to facts. This state of things should not be countenanced. The expert may coach a lawyer, but should not appear as a partisan. He should appear as an expert to tell the truth as he knows it, regardless of how it may affect the case. If his honest convictions are with one side or the other, he may be engaged by the defendant or plaintiff; but having the confidential communications of one side, he may not subsequently appear against that side. And the presentation of the hypothetical case is not a correct method of eliciting the truth, for it is impossible to embody all the details necessary to a full understanding of the case by such means. Dr. Ray thought the expert should be asked: "Do you give your time and attention continually to a particular branch of medicine, and is that mental or psychological medicine? and that opinions should be given in writing, and read to the jury without oral examination. It would then be deliberately prepared, its explanations well considered, and its full force and bearings clearly discerned. It would go to the jury on its own merits, no advantage being gained by either party by the superior adroitness of counsel in embarrassing the witness and

pushing his statement to a false or ridiculous conclusion." The animus of the expert, with his dishonesty or incompetence, would thus be disclosed.

The Illinois law provides that the sheriff, gaoler, or other suitable person may detain insane persons until trial. Both gaoling and the trial by jury of the insane are processes unworthy a civilized age and people. The Board of State Charities has already taken proper ground in the matter when it says: "Why not leave the matter, as in many of our States in the United States and as in England, to be dealt with as a scientific professional question for the medical man and pathologist, and not for the finding by a verdict of jurors, based on slight evidence? Is it essential to liberty and to the maintaining of personal freedom from undue restraint that the law should exist in its present form? A writ of habeas corpus will always lie as a writ of right to inquire into the cause of the detention of any party in a hospital for the sane or insane. It is believed by many that our present jury law was superinduced by undue excitement growing out of one case, which was by no means a clear case of misapplication of the rigor of the law. It is required that the near relatives—and when none exist, then a respectable person of the county—must petition for the trial of the person's sanity or insanity, and it is obvious from the law that the proceeding is for the welfare of the individual supposed to be insane. It is not a criminal charge, and yet you treat the matter with the formality of a charge or trial for crime; in place of having a commission or board of physicians, you try the person and render a verdict, from which you provide no escape by his individual act that would be legal."

As to causes of insanity, Dr. Funkelburg, of the Russian public health commission, claims that in that country lack of intellectual culture, insufficient food, unhealthy dwellings, are causes, but abuse of alcoholic liquors sends 20 per cent. to asylums and 40 per cent. to gaols. Lord Shaftesbury, who was chief of the Lunacy Commission for fifty years, said that 50 per cent. of insanity in England was caused by intemperance. According to Lumer, 50 per cent. of the idiots and imbeciles in Europe had notoriously drunken parents. Michet figures hereditary influences as predisposing to one-half of all insane cases. Guslain claims heredity operative in 30 per cent. of cases, and Anstie ascribes the origin of heredity to want of education, mental vacuity, and excesses, particularly alcoholic.

A good instance of the misery entailed by a degraded ancestry is afforded by the Jukes family, of New York. Margaret Jukes, in six generations, had 709 descendants, all of whom were thieves and murderers or idiots. Exciting causes in one generation became predisposing in the next. Dr. Page, of the Connecticut (Hartford) Retreat, analyzed 2,333 cases and found one-half due to causes largely under the control of man. Hereditary tendencies were at the bottom of most cases, the bad habits of parents becoming diseased conditions in the children. Head injuries and sunstrokes are prolific sources of insanities. Diseases, such as scarlatina, meningitis, small-pox, rheumatism, gout, lues, epilepsy, chorea, hysteria, predispose to and directly cause insanity. Pellagrous insanity is a form produced by eating diseased corn. Morphine, chloral and other poisons sometimes cause loss of mentality. Emotionalism, such as is engendered by too much novel reading and failure to cultivate reasoning faculties, is a cause. Consanguineous marriages often predispose offspring to weak mental condition. Change of environment, domestic troubles and grief, roughly estimated, cause twelve to fifteen per cent., but pre-existing mental instability may be supposed in many such cases. The two extremes of mental stagnation, with sensual degradation upon the one hand and gloomy fanaticism on the other, and dwelling too long and intently upon religious questions, especially when presented in narrow and exclusive forms, drive to despair or perilous exaltation of the feelings.

In conclusion, Dr. Clevenger made the following suggestions and remarks:

"The resident staff for a 500-population asylum should consist of medical superintendent, three assistant physicians, one pathologist, one female physician as gynæcologist, one clinical clerk. A consulting staff to visit the patients weekly, or, as suggested by the superintendent, to consist of one specialist in skin diseases, one eye and ear physician, one surgeon. Internes could be selected from medical schools, among those wishing to fit themselves in psychiatry, and the clinical clerk is, in Europe, selected on that basis. There need be no fear of increased expense in such an arrangement, for the consulting staff would serve for the honor of the positions, and internes receive no salaries from any hospital fund. The additional cost for board of the extra medical men could be afforded for ten years by one year's curtailment of unnecessary building details. Millions of dollars are expended in unwise architecture, absolutely lost by the necessity for being undone in time. At Danvers, Mass., a palace asylum was undergoing construction, while the insane of the State, awaiting its completion, starved and were frozen in dungeons of almshouses, and were without any medical attendance.

"The coming century will witness as great an advance in the methods of treating the insane as this century has surpassed the eighteenth century in their treatment. The time is coming when, instead of millions being expended for palatial asylums, a few thousands will suffice for comfortable hospital construction, and the surplus be expended in curative measures and in the search for the causes and the means for the prevention of insanity. Asylum officials will be selected through special fitness for their vocations. Instead of its being as much as one's position was worth to ask for a post-mortem case of instruments, every hospital for the insane will become the nucleus of a busy faculty of investigators, and even six months' work on the part of a competent physician will not be considered too much to devote to a single post-mortem examination, with the occasional result of producing a Virchow, who could see more in a pathological specimen in one day than multitudes of other observers in a lifetime. The methods of research have been established, the course to pursue to arrive at definite results is now known, and the means and workmen are coming, for with the dawn of the twentieth century the exactness of the knowledge already evoked will have advanced by that time to an extent that will open the eyes of the meanest of the multitude to the necessity for more thorough investigation, not only of the brain but of the entire body, in connection with the intra viam history. There is nothing like the realization that a thing pays in America to induce activity."

Dr. Garrison echoed the plea of Dr. Clevenger for more scientific study of psychiatry.

Dr. Kiernan said that the condition of the insane in the almshouses was as much a shame and disgrace to Illinois as her lunacy laws, which last exposed the sane to danger from the insane and kept the insane from receiving the early treatment which was their due.

Pathological Society of London, England.

THREE CASES OF CALCULUS OF THE PANCREATIC DUCT.

Dr. Norman Moore described the above as follows: 1. A pancreas with a dilated duct containing numerous irregular calculi of carbonate of lime. The duct was most dilated near the head; there were stones in all parts of it, but it was nowhere completely closed. The patient was a man aged forty, who died of diabetes. The bile duct was pervious, and there was never any jaundice. 2. A pancreas with its main duct slightly dilated and containing a calculus of

irregular shape, around which there was a large abscess in the head of the gland. This abscess pressed upon the orifice of the bile duct sufficiently to produce great distension of the gall bladder. The patient was a man aged forty-three, who died in St. Bartholomew's Hospital from an attack of pleurisy following gouty symptoms. 3. A pancreas with great dilatation of the duct throughout its length. Near the orifice the duct was blocked by a small calculus of irregular shape. The whole gland was very hard, and to the naked eye showed a great increase of connective tissue. The papilla in the duodenum was enlarged, and the hardened tissue of the pancreas had constricted the bile duct so as to cause complete obstruction. The liver was of a deep green color, intensely hard, with a general dilatation of its ducts, which everywhere contained watery bile and bile gravel. The glands in the hilum of the liver showed no new growth, and a careful search showed none anywhere in the body. Sections of the pancreas, under the microscope, revealed an extensive increase of connective tissue, many bands of old growth traversed the gland, and there were patches of the nuclei of a more recent connective tissue growth. Some normal acini were visible, but most of the gland cells were more or less atrophied. No cells like those of the acini were to be found beyond their proper limits, nor were there any other signs of carcinomatous growth. The morbid change was of the same kind as that found in the liver of cirrhosis. Dr. Wickham Legg had shown that dilatation of the hepatic ducts produced an increase of connective tissue throughout the liver. In this pancreas a gradual dilatation of its ducts, due to occlusion of its main duct by a calculus, was probably the cause of the connective tissue growth throughout the gland. Cirrhosis of the pancreas, as a result of calculus, had not been described before. The patient was a man aged sixty-four, who was admitted into St. Bartholomew's Hospital in July, 1883, and died in October. He had been ill for a month, and jaundiced for three days before his admission to the hospital. The liver was not then enlarged, but on August 13th was distinctly increased in size. During his illness the patient had many attacks of vomiting, but no colic. The speaker had exhibited to the Society, in 1882, two cases of abscess of the pancreas; the present was the only one which had been met with at the hospital since then. In the three cases shown that evening there had been jaundice in only one, the last, and colic in none, but in all three attacks of vomiting were noticeable features.

Dr. Wilks asked if Dr. Moore attributed the diabetes in his first patient to the pancreatic affection, and reminded the society that at the commencement of the debate on diabetes he had mentioned the subject which had since then been dealt with by Dr. Lancereaux in a separate treatise.

Dr. Burney Yeo asked if disease of the pancreas had been suspected during life in any of the cases.

Mr. Henry Morris had seen pancreatic calculi associated with calculi in the mesentery. Dr. Johnson had put together all the recorded cases in the *Journal of Medical Sciences*.

Dr. Hadden had recently found a pancreatic calculus in a case of diabetes.

Dr. Mahomed had twice found diabetes associated with pancreatic disease; one was a case of lipæmia, the blood clots being of a raspberry cream color.

Dr. Goodhart mentioned a case of fatty degeneration of the pancreas which he had seen associated with diabetes.

Dr. Hale White had examined the records at Guy's Hospital, and found that in three or four cases of diabetes it was stated that the pancreas was wasted or undergoing fatty degeneration.

The President observed that the discussion had brought to light more facts in regard to the pancreas in diabetes than the debate on that subject had succeeded in doing.

Dr. Norman Moore, in reply, spoke of the difficulty about being certain, post

mortem, that the pancreas was diseased. The diagnosis was very difficult; perhaps repeated vomiting without evident cause was a sign of some value. He had not seen any case quite resembling what Mr. Morris had spoken of.—*Times and Gazette.*

ROYAL MEDICAL AND CHIRURGICAL SOCIETY, LONDON. January, 1884; JOHN MARSHALL, F.R.S., President, in the chair.

ON THE DIRECT TREATMENT OF SPINAL CARIES BY OPERATION.

A paper by Mr. Frederick Treves on the above subject was read and discussed. Mr. Treves contended that the gravity of spinal caries depends not so much upon any special pathological feature in the process as upon the depth at which the disease is situated, and its inaccessibility to the usual operative procedures applied to caries elsewhere. Diseased bone cannot be removed from the vertebral bodies, and the morbid products, having to travel a great distance in order to be evacuated, are apt to induce immense purulent collections. These collections are usually opened at a point remote from the original seat of the disease. In the operation proposed by the author the anterior surfaces of the bodies of all the lumbar vertebræ and—with some reservation—of the last dorsal vertebra, can be reached from the loin. A vertical incision is made near the outer edge of the erector spinæ; the sheath of that muscle and the quadratus lumborum are cut through; the psoas muscle is incised and the vertebræ reached by continuing the operation along the deep aspect of that structure. The details of the procedure are fully described. By means of this operation the vertebræ can be readily examined, carious or necrosed bone can be removed, a ready and direct exit can be given to all morbid products; an abscess situated in the psoas muscle or in the lumbar region can be evacuated while it is yet small, and before it has led to a huge abscess cavity. If a large psoas or lumbar abscess exists it can be evacuated at its point of origin, and at a spot that, in the recumbent posture, corresponds to its most dependent part. If Hueter's statement be true, that the two vertebræ most frequently attacked by caries are the last dorsal and first lumbar, the operation should be capable of frequent application. The author details three cases in which he performed this operation. All the patients made a good recovery. In one of the instances he evacuated at its point of origin a psoas abscess containing forty ounces of pus, and removed from the body of the first lumbar vertebra a large sequestrum measuring one inch by half an inch. The immediate improvement in this patient's condition was very marked. In another case the psoas abscess had been opened in the thigh some months previously. By this operation a counter-opening was made at the point of origin of the abscess from the lumbar spine, and the entire abscess cavity was drained by a tube passing from the origin of the psoas muscle to its insertion.

The President congratulated the author on his paper, and invited discussion. He drew attention to the many specimens of vertebral caries which were on the table, and which he thought would help to decide the question as to the commonest position at which the disease occurred.

Mr. Treves somewhat amplified the details of the cases recorded in his paper: the young woman from whom the necrosed bone had been removed was absolutely well; but the boy, though he had improved as to the local disease, had subsequently died of lung disease with amyloid degeneration of liver and spleen. The specimen of the diseased vertebræ was on the table, and showed the localized condition of the caries.

Mr. Barwell thought that Mr. Treves was to be congratulated, more especially on the closing paragraphs of his paper and on the very unusual condition found in his first case. He said the closing paragraphs, because in them would be

found indicated that which will prove valuable in the operation described by Mr. Treves. He would occupy a few moments in considering the condition of bone in caries of the spine, as it was always, or very nearly always found. In a few instances there was a superficial caries occupying generally the front of the vertebræ, and usually spread over a good number of bones, over a far greater extent of surface than could possibly be reached during life. Such disease did not produce angular curvature, not, at all events, until very far advanced indeed. But the more common form was generally confined to three or four vertebræ—the upper and lower of the affected bones appearing to be only secondarily diseased by the corrosive action of pus—the middle bone when three, or the two middle ones when four vertebræ were involved, became carious, the front and lateral parts of the body quickly disappeared, so that there only remained a wedge of softened bone, infiltrated with and soaked in pus. To attempt the removal of such disease by operation, especially when that operation has to be carried out at a depth which precludes any very accurate guidance of instruments, must be fraught with such danger to the spinal canal that it would in most instances, if not in all, be unjustifiable; nevertheless, Mr. Treves was to be congratulated on his first case. On reaching the spine he had found an abscess cavity leading direct to a sequestrum, already loose, and, being pushed away by granulations, and it was easily removed. The patient of course was greatly benefited and got well. But such a condition about the spine was exceedingly rare, so rare that no operation could be founded upon it, more especially as it could not be diagnosed during life. Of the other two cases, one was a caries already healed, and the other a persistent one, both accompanied by abscess, and both benefited by free opening and draining away of the pus. It was on this point he thought that Mr. Treves' concluding remarks were valuable. Limited to its proper sphere, the operation would certainly take its place in surgery. This place was not the removal or gouging of carious parts of vertebræ, but the free opening, draining and keeping sweet of the abscesses which result from that disease.

Mr. Bryant congratulated Mr. Treves on having shown how the principles of surgery which obtained in the treatment of abscess elsewhere could be applied to the region of the spine; and although it must be felt that this plan would only prove of service in a few cases, the operation on that account was not to be depreciated. Contrary to the usual teaching, many abscesses in this region were not dependent on caries: or the caries when present was secondary to the pus, and not its source. The paper suggested a not difficult means of getting at pus in the vertebræ during the early stage, and while the pus collection was small, and at a spot which allowed good drainage. It could, however, only be done in exceptional cases. The disease was not always in the vertebræ but almost as often in the intervertebral substance; in either case, however, the patients would be more likely to recover if the pus could be let out and the abscess cavity well drained. He would make just one criticism: he thought the drainage-tube was very much larger than it need be. Finally, he would say the idea was not altogether a new one; he had himself treated a few cases on this principle, though not quite after the plan now advocated by Mr. Treves.

Mr. Keetley said that, having found correct the statements made in Germany, as to the value of treatment by erosion and iodoform of caries of the bones of the limbs, he had been for some time anxious to discover a suitable case of caries of the lumber spine on which to try the same treatment. But hitherto he had only met with two cases, which showed little more than the practicability of such proceedings as those described by Mr. Treves. As, however, they clearly proved this, he now mentioned them. In the first case, that of a girl of 16 with lumbar abscess, he opened the abscess and was able to discover a carious transverse right process of the third lumbar vertebra, as well as to examine the side of the

body of that vertebra with the tip of his finger. With antiseptic drainage, and the injection of a solution of iodoform in ether, the abscess closed and the patient convalesced. In the second case, marked angular curvature had existed for many years in a woman now aged 29, and there were several fistulous openings about the loins, buttocks and thighs. These were scraped out, and the original seat of disease in the bodies of the lumbar vertebræ cut down upon by an incision similar to that described by Mr. Treves; but these bodies were found firmly anchylosed together, and, as far as could be made out, not at all carious. But caries was found on the dorsal aspect of the sacrum. This was scraped, and the wound and sinuses were injected with iodoform in ether. This patient is still in the West London Hospital, with wound and sinuses almost closed. The first-mentioned patient was operated upon on September 9th last, also in the West London.

Mr. Noble Smith acknowledged the value of this suggestion; yet it was not a new plan, for Mr. Furneaux Jordan had advocated a similar plan some time ago, a fact, by the way, which in no way detracted from its merits. Mr. Jordan would only have had his plan applied in severe cases which had resisted treatment for a long time. He (himself) thought that such an operation certainly ought not to be applied in early cases, and he made his modest protest against any such practice. In the recorded cases the operation had proved itself of value; but he thought that equally good results were to be obtained from rest. Many cases died because rest could not be effectually carried out.

Mr. Macnamara referred to the pathological differences in the cases, most of which were undoubtedly tubercular in character. Percival Pott, in his admirable Treatise, had first drawn attention to this fact; he recorded how cases could be absolutely cured by counter-irritation, a statement which his own experience would corroborate. The counter-irritation consisted in the insertion of an issue in the back, which was allowed to remain *in situ* for two or three months or longer. Pathological anatomy had long since cleared up the nature of the disease, and shown its tubercular nature; that at first it is very local in its action and very limited, and that the diseased material, under favorable circumstances, is absorbed and replaced by new bone. Pott's cases were not all very early ones; for the Treatise was one on paralysis in association with spinal disease; hence probably the cases were far advanced.

Mr. Knight Treves (Margate) thought that the operation now advocated was suited to let out pus rather than for the treatment of caries; and when pus was present some such operation was clearly indicated. He had seen a great number of cases of spinal disease, and a more hopeless disease he could not conceive. The rarity with which the disease was seen in people of 30 or 40 years of age was sufficiently accounted for by its mortality. As regards the removal of bone, he thought the proceeding a more doubtful one. It was difficult to diagnose necrosis of the spine; but such cases probably ran a more acute course, wher as caries was essentially slower, and more chronic in its course.

Mr. R. W. Parker said all would sympathize with Mr. Treves in his wish to make spinal disease more accessible to surgical treatment; at the East London Children's Hospital he saw a large number of cases, and he was awake to the insufficiency of the present methods of treatment in a large proportion of these cases. An analysis of 183 cases of which he had notes showed that the disease was located in the cervical region 9 times; in the dorsal region 82 times; in the dorso-lumbar region 21 times; and in the lumbar and lumbo-sacral region 37 times, while in 34 cases its exact locality was not specified. These figures did not quite agree with those of other observers as to the commonest seat of the disease. He could not agree with Mr. Treves in his view that the gravity of spinal caries depended not so much upon any special pathological feature in the process as upon the depth at which the disease was situated. His own experi-

ence was that abscess was comparatively infrequent in spinal caries. Thus, in the nine cervical cases, suppuration was present in two cases; in the 82 dorsal cases, in six only: in the 21 dorso-lumbar cases, in six; in the lumbar and lumbo-sacral cases, suppuration was present in 28 cases. He quite agreed with the last speaker, that the operation was chiefly suitable for the letting out of pus rather than for the treatment of caries. Unfortunately it was by no means easy to diagnose pus. When caries was present it was desirable that healing should go on slowly, for in this way there was less probability of the nerves within the spinal column being interfered with.

Mr. Hulke rather took exception to Mr. Parker's statistics; he had at first thought they referred to post-mortem examinations, but it was obvious on consideration that this was not the case, and indeed Mr. Parker had stated that the observations were made from a clinical standpoint. He would remind the society that abscess in such cases only occurred late on in the disease, and that it was impossible to deny its existence even when it did not present on the surface.

Mr. Parker, in explanation, replied to Mr. Hulke, that he spoke from a clinical point of view. Many of the cases were under observation for long periods, and when recovery took place without the formation of an abscess, he had concluded that pus was not present in any considerable quantity. Moreover, he had made a few post-mortem examinations, and had been struck with the absence of pus; a small amount of thick caseous material was all that he found, in quantity quite disproportionate to the extent of the bone disease.

Mr. Howard Marsh wished to criticize the title of Mr. Treves' paper, which ran thus: "On the Direct Treatment of Spinal Caries by Operation." Discussions which took place at that society attracted attention in the profession, and he thought that many who read the paper might, unless a caution was given, be led to undertake operations, in cases of spinal disease, which would be attended by very unfavorable results. He believed, notwithstanding its title, the paper was intended by the author to advise the early treatment of spinal abscesses by free incision and drainage in favorable situations, rather than to recommend an operation for the removal of bone. On this understanding, he regarded the paper as one of great value. Such interference, he thought, would be attended with a very favorable result, in cases where otherwise recovery was unlikely. The paper, in fact, showed how the principle of evacuating matter early, so widely established in other cases, might be applied to the cases of spinal disease. But as to the treatment of the spinal disease itself, by the removal of diseased bone, he felt that to advocate such a step would be a great mistake. In disease of the spine, a sequestrum was very rarely present. The condition induced was that of caries: that is, the bone was soft, and in a state of molecular disintegration. But the line of demarcation between this and mere chronic inflammation could not be defined, and to cut away bone that was merely inflamed was mischievous; the mechanical injury did much harm, and bone was removed that would, if left, have recovered. He had seen, at the Hospital for Sick Children, many cases of large spinal abscesses, in which Mr. Treves' operation would have been very valuable. But he anticipated, notwithstanding the title of the paper, that the author did not wish to be understood as advocating operations on the spinal column, for the direct purpose of removing diseased bone; though, of course, should loose bone be found (as in the first case), it should be carefully taken away.

Mr. Savory said that he need hardly remark that any suggestion in surgery coming from Mr. Treves was worthy of most careful consideration, and perhaps the best contribution towards an answer to the question he had raised, would be given by pointing out some of the difficulties which occurred to one's mind in relation to the practice he proposed. In the first place, then, it appeared that

the operation could not, in most cases, afford an exposure of the diseased structures, adequate to enable the surgeon to remove safely and completely the carious bone. Even in situations far more favorable to operations, as in the instance of the tarsus, this difficulty not infrequently presented itself. Even here, everyone was grateful to Esmarch's bandage, for the clearer view it gave the surgeon of the condition of the several structures. What then must be the difficulty of cutting away carious bone in a satisfactory manner in the case of the vertebræ? And then again, for operations in caries to be successful, certain conditions are necessary. It is not every case of caries that is benefited by operation. The pathology of caries should not, in this question, be overlooked. The stage called caries is not a primary one, and is preceded by changes of the nature of inflammation and disintegration; and unless the whole area of morbid changes can be included, an operation which deals with the surface of ulceration only may be worse than useless. The case of necrosis was quite different. If by an operation a sequestrum can be removed, then indeed the result may be very useful and brilliant. In fact, it is not too much to say that in such a case it may be the means of saving life. But then, how are we to diagnose the presence of a sequestrum? Seeing how many cases recover without operation, are we justified in commonly performing it on the chance of discovering a loose fragment of bone? He could not sit down without alluding to an observation which had fallen from Mr. Bryant, to the effect that psoas abscess not unfrequently occurred without any preceding disease of bone. If Mr. Bryant would record the facts on which this statement was founded, he would be doing good service to the Society and to surgery.

Mr. Eve, at the request of the President, had placed on the table specimens of spinal caries, involving especially the dorso-lumbar region. On looking through the catalogues of the Royal College of Surgeons' Museum and St. Bartholomew's Hospital, he found that, roughly, in sixty specimens the last dorsal or first lumbar vertebræ was involved in thirty, but the latter in a minority of the specimens. Mr. Treves had stated in his paper that by the operation detailed the last dorsal vertebra could be reached, and therefore in a large number of cases the abscess could be opened at an early stage and drained by that method, although the bone disease might not be adequately dealt with. Mr. Eve was fully aware that museum specimens did not offer an exact criterion of the actual proportion or cases of diseases affecting particular regions of the spine, but the above was an interesting fact which to some extent corroborated Hueter's statement.

Mr. Bryant explained, in answer to Mr. Savory's criticisms, that he referred to acute abscesses about the spine and psoas region. While pathologist at Guy's he had seen several cases of psoas abscess, not associated with spinal caries; further, he had seen cases of dried-up abscess within the psoas muscle, and without caries. It was to such cases that he alluded.

The President remembered the case of a man who, after riding rough-shod over Hampstead Heath, received some injury, and shortly afterwards died of pyæmia. There was no external abscess, but an autopsy revealed a large suppurating hæmatoma within the sheath of the psoas muscle. The asserted greater frequency of disease between the last dorsal and first lumbar vertebræ was, perhaps, to be accounted for by the great mobility of the spine at this part. He then called on Mr. Treves to reply.

Mr. Savory explained that when he had referred to psoas abscess, he of course meant the ordinary chronic and not the acute traumatic variety.

Mr. Treves replied. He said: Not only had the title of his paper been somewhat unfortunate, but the first of the recorded cases had, in a sense, been also a little in opposition to the object with which the paper was written. Many of the speakers had very reasonably surmised that the procedure was

deliberately directed against the bone, and had for its principal purpose the removal of sequestra from the spine. He entirely agreed with all those who condemned such an object. He should be strongly opposed to the gouging away of carious bone from the spine and to the indiscriminate removal of the diseased parts. Sequestra were very rare indeed in cases of this kind, and in the first of his cases the presence of the sequestrum, which he had removed, was entirely unexpected. The main purpose of the paper was to detail an operation, founded upon precise anatomical data, whereby the lumbar vertebræ could be reached and pus arising from bone disease be evacuated at its point of origin. The procedure merely aimed at placing disease in the spinal bones in as nearly as possible the same position with reference to treatment as caries of the other parts. Mr. Barwell was opposed to the operation, because, as he rightly said, the exact site of the malady was not always certain. In answer to this he would ask which step was the more serious: A simple exploratory incision down to the spine under antiseptic precautions, or the leaving of a case of uncertain bone disease to quietly develop until it reached such proportions as to be readily recognized? Mr. Bryant's observation, that pus in contact with normal bone may in time lead to erosion of that bone, was very important, and was a strong argument in favor of evacuating a psoas abscess as early as possible. He was unable to see in what way Mr. Furneaux Jordan's proposed operation—mentioned by Mr. Noble Smith—resembled the one he had detailed this evening. He would agree with Mr. Smith that rest was of very great importance, but he believed that serious evils had followed a too great leaning towards that measure. It had led to the indiscriminate treatment of all spinal cases by apparatus. The apparatus appeared to have been considered all-sufficient. In many cases this treatment had fallen into unworthy hands. A large section of the laity still had the impression that all spinal maladies must be treated by apparatus of some kind. He did not think that the opening of a psoas abscess in the iliac region or just above the iliac crest was to be advised. The opening was some way distant from the seat of the disease, drainage was less easy and the operation less safe on the whole. He had no difficulty in fully exposing the diseased part; tearing of muscle was not required. The bone was bared fully by the abscess, and when the finger was introduced into the abscess cavity the diseased district would be found to be as well exposed as by a dissection.

There was a large collection of specimens of spinal caries from the London Hospital, from University College and from the College of Surgeons.

The society then adjourned.—*British Medical Journal.*

SANITARY DEPARTMENT.

SANITARY QUESTIONS IN NEW YORK. Report of the Committee on Hygiene, of the Medical Society of New York, at the last annual meeting.

The report consisted of four parts. The first part was by Dr. E. G. Janeway, on

MORTALITY STATISTICS AND EPIDEMIC INFLUENCES.

The mortality for the nine months for the year ending September 30th has been less than for the corresponding period for 1881 and 1882. It has, however, been somewhat greater, both absolutely [and compara-

tively, as regards increase of population, than that for the same period in the years 1878-79-80. Then followed figures showing the absolute difference for ten years.

The work of systematic vaccination was begun in 1875, and continues at the present time. The corps at the Board of Health charged with this work has performed 119,856 primary and 430,783 revaccinations. By the labors of the Board of Health the disease has been checked on all the occasions on which it has appeared. The mortality from small-pox is only one-half to one fourth what it was in the six years preceding 1877. Physicians should urge this work, as, when small-pox has only prevailed to the limited extend that it has done during the six years just ending, the people become careless, and persuasive vaccination by public authority becomes difficult. It is far more essential to keep up thorough vaccination now than to wait for an invitation after the initiation of another outbreak of the disease, which will find its victims among the careless and the obstinate. Dr. Janeway then presented the mortality tables for measles, scarlet fever, diphtheria, etc., for the three-fourths of each year from 1872-83 inclusive. They showed the fluctuating character of mortality for measles, scarlet fever, and diphtheria, from which it seems probable that, owing to the moderate number of deaths from scarlet fever this year, we should witness next year a marked increase for this disease; whereas for measles, the probability would be that there would be a considerable diminution. Diphtheria is on the decline, and from the previous course of the disease it is possible that this diminished mortality may continue for another year or more. Pneumonia has produced 41 less deaths than last year, 235 more than in 1881, and 634 more than in 1880.

During last summer the mortality from diarrhœal diseases had been comparatively moderate. From a comparison of the mortality of these affections Dr. Janeway felt that, making all due allowance for all possible error, a considerable number of lives had been saved as a result of the employment of a summer corps of the Board of Health, and of the active charity of New York City.

With regard to typhoid fever, he feared, owing to the defective water supply, a decided increase in the mortality had occurred. But for the efforts of the Board of Health, the disease would have spread greatly, and extended over a number of years. Physicians should see to it that the Board of Health is properly maintained, aided and encouraged in its work. At times physicians have neglected, or, by concealment, have failed to notify the Board of Health of the existence of contagious diseases, with the effect of producing an epidemic in some cases.

The second part was by Dr. O. D. Pomeroy,

ON SOME POINTS IN THE HYGIENE OF THE EAR.

Ordinarily the ear is not affected by exposure to the air. All tuberculous subjects, those of a strumous habit, and a considerable number who

rank as peculiarly sensitive to atmospheric influences, are exceptions to the general rule. Damp air is much more apt to act perniciously than dry air. Sea bathing is often injurious from the direct application of the cold water to the meatus giving rise to otitis media; or, from the violent concussion of a wave upon the meatus, or the entrance of water into the Eustachian tubes. Fill the meatus with cotton and tell the patient not to inhale water or allow it to get into the mouth.

The effect of loud and discordant noises in the ear is often very pernicious. If the patient is removed from the noise before profound deafness results, he may spontaneously recover a good degree of hearing, or become wholly convalescent. Riding in railway cars with the windows open, ship-caulking, and confinement in the never-ending clicking noise of the telegraph instrument, may act perniciously on the ear. Musical sounds do not seem to do harm to the ears. Monotonous and discordant sounds seem alone to operate injuriously on the ears.

Cannon firing, or the discharge of firearms, or the concussion of any explosive sounds, especially when occurring unexpectedly, are likely to do great harm to the hearing. It may rupture the drum-head, or at once render the acoustic nerve unfit for functional activity. Hold the mouth open while the gun is being fired, so that the concussion may act simultaneously upon both surfaces of the drum-membrane. The effect of compressed air, as experienced in the ears of divers, caisson-builders, etc., is often very pernicious. The principal mode of obviating such pernicious consequences is to cause a frequent interchange of air between the throat and the tympanum. This is accomplished by catheterization, either with the Eustachian catheter or Pomeroy's faucial catheter, or by Politzer's or Valsalva's operation. Sometimes simply swallowing, either with or without the stoppage of the nostrils, will be sufficient, in going from one compartment of a caisson to another having a different air-pressure.

The ears require to be "changed," as the expression is, that is, induce an interchange of air between the throat and tympanum, so as to equalize the pressure. On the score of violence inflicted on the ear, the common practice of boxing the ears of children is liable to result in serious damage; pulling and pinching the auricles is much to be reprehended. With reference to the prevention of impaction of cerumen in the meatus, disease of the ears for the most part may be predicated when this tendency exists, and no efforts at cleanliness can prevent it. Sunstroke occasionally affects the hearing unfavorably.

The third part was by Dr. Stephen Smith,

ON SEWER GASES.

Sewer gas has been recognized as a powerful factor in the cause of that large class of preventable affections known as "filth diseases." The writer then spoke of the solution of the question of the prevention of the entrance of sewer gas into dwellings, of the far more important question of ventilating sewers themselves, and of the system adopted

by the Department of Public Works for the accomplishment of this purpose. Dr. Smith gave practical illustrations of the evils of the present system of ventilating sewers, that is by means of perforated covers to the man-holes in the streets. He referred especially to Forty-second street, which is seldom free from the odor of sewer gases, and frequently for days and nights together the odor is so intense as to raise the inquiry of the residents as to the possibility of the odor from the gas manufactory miles distant reaching them. In damp, foggy weather the residents have been obliged to close their windows at night to shut out the foul odors. He thought it very evident that this method of ventilating sewers is in every respect objectionable. Practically it is equivalent to having open sewers running through the streets of New York. There can be no effective method of removing the gases of sewers except by apparatus which is aspirating in its operations. The gases should be drawn out by the action of forces which are constant and altogether independent of atmospheric changes, and delivered into the external air at an altitude which renders it impossible for them to penetrate any room occupied by human beings at any time. The subject above considered ought to receive the attention of the Board of Health. In answer to complaints of citizens, and requests that the nuisances be abated, that body refers to the Department of Public Works. Though the sewers are managed by that department, yet the Board of Health is not thereby exonerated from obligation to protect the public health against the dangers to life or the detriments to health which the Department of Public Works or any other department creates.

The fourth part was by the Chairman of the Committee, Dr. S. Oakley Vandepoel, on

THE HYGIENE OF HIGH HOUSES.

The Committee protested against the erection of high buildings from a hygienic point. First, with reference to the inmates. Since the inception of this question in building, no general epidemic—such as all large communities are liable to—has occurred. Isolation of the sick in all such maladies is a prime factor to prevent spread of the disease. In the buildings constructed having so many families, such isolation would be practically impossible. Either through necessary attendance, contaminated clothing, or currents of air, the epidemic poison would be carried to every occupant, and the persons now eager to secure apartments therein would be as anxious to desert them. The families in the first three stories are to a great degree deprived of sunshine. The importance of this to the thickly denizened population can hardly be overestimated.

So much of the surface of the lot is occupied both for obtaining room and to give solidity to the high walls, that it becomes necessary to resort to every expedient to procure the necessary circulation of air and ventilation. Chief among these are the air-shafts running from the bottom to the top of all such houses. Into these, windows open either from the inside rooms, or these windows may serve as ventilators to water-closets

and bath-rooms. While the houses and plumbing are new, no unpleasant effects may follow this procedure; but, as experience has too often shown, defective plumbing in any of the lower stories will allow miasm to be wafted to every story above through the open windows upon these shafts.

For economical reasons, most of the closets and bath-rooms are placed upon one line of piping. Should typhoid fever, or possibly cholera, occur in the lower stories, and any defects exist in the traps above, the poison would contaminate the apartments so exposed.

Second, their influence is more baneful upon the surrounding property and streets. Opposite and adjoining houses receive no direct rays of sunshine. The streets remain damp, and, of necessity, more or less filthy. This constant dampness and, lack of sunshine is more or less pernicious. All methods of disinfection and destruction of disease germs depend upon the active oxidizing effect of the material employed. In our streets, next to cleanliness, the most important factor in oxidation is the sun's rays.

These evils are not confined to the residents of the high buildings, but to those also on the opposite side of the narrow streets. Private houses, before cheerful and healthy, become gloomy and unhealthy. Fictitious currents of air are established which not only make smoking chimneys, but may reverse the currents from the underlying pipe from the roof connecting with the soil pipe. While apartment houses in our crowded population with limited area may be a recognized necessity, a limit of height, regulated by the width of the adjoining street, should be required as a sanitary necessity.—*Medical Record.*

BIOGRAPHY.

Dr. Elisha Harris.

Dr. Elisha Harris, Secretary of the State Board of Health, died recently at the Delavan House, in Albany, after an illness of four days' duration. The cause of death was an attack of peritonitis. Dr. Harris, who was well known throughout the entire civilized world, by reason of his connection with sanitary work and the collation of vital statistics, was born in Westminster, Vt., March 5, 1824. After a common school education in his native town, in 1837, he became an academical student of Dr. S. B. Woolworth, late Secretary of the State Board of Regents of the University of the State of New York. During 10 years of his life spent as teacher, student, and farm assistant to his father, he pursued his medical studies, and finally was graduated from the College of Physicians and Surgeons in 1849. Lafayette College subsequently conferred upon him the honorary title of Master of Arts. Soon after beginning the practice of medicine, he married, in the autumn of 1849, the only daughter

of the Rev. Dr. Josiah B. Andrews. She died in 1867, leaving no children, and from the date of her death Dr. Harris gave all of his time to the public service in various capacities.

Dr. Harris's first entrance into the public service was in 1855, when he was made Superintendent and Physician-in-Chief of the Quarantine Hospitals at Staten Island. To him was intrusted, in 1859, the construction of a floating hospital to be anchored below the Narrows, facing the open sea. His mastery of the sanitary problems connected with the New York Quarantine Station resulted in the establishment of the present system of quarantine defenses, in all their important details. When the recent war of the States commenced, Dr. Harris, in connection with the Rev. Dr. Henry C. Bellows and others, became interested in the National Sanitary Commission, and he was for nearly five years a Sanitary Commissioner. The railway ambulance was exclusively his device, and proved of such value that, in 1867, at the Exposition Universelle in Paris, he was awarded a bronze medal. A silver medal was given him for the same ambulance by the Société des Secours aux Blessés. The ambulance was also adopted and used by the Prussian Army in the Franco-Prussian war. The system of a national record of the deaths and burials of soldiers was also devised by him and adopted by the War Department. At the close of the war he was intrusted with the collection of the sanitary history of the war, which was published in several volumes, entitled "Sanitary Memoirs of the War."

At the close of the war Dr. Harris again turned his attention to the sanitary conditions and needs of this city. As a voluntary work, he supervised a sanitary survey of the city. The results of this were published by the Appletons, as a report on the sanitary condition and wants of the city. It was a work of great value to sanitary science, as well as to the metropolis itself. He entered the service of the Metropolitan Board of Health three days after its organization, March 5, 1866, the same day on which the secretary of the present Board, Colonel Emmons Clark, received his original appointment. His associates on the Board were Drs. James Crane, Willard Parker, John O. Stone, and John Swinburne, and Jackson S. Schultz. The ex-officio members were Thomas C. Acton, John G. Bergen, Joseph S. Bosworth, and Benjamin F. Manierre. Dr. Harris then held the position of Registrar of Records. In 1869, when E. B. Dalton, the first Sanitary Superintendent of the city, resigned, Dr. Harris was appointed as his successor, but was legislated out of office in 1870, with the adoption of the new charter. In 1873 he was appointed Registrar of Vital Statistics, and he retained that position until January, 1876, when he was again virtually legislated out of office, the Board of Estimate and Apportionment having consolidated the Bureau of Vital Statistics and the Sanitary Bureau and extinguished the office of Registrar of Records, whose work is now performed by the Sanitary Superintendent and his assistants. When Dr. Harris was first appointed to the office of Registrar, in 1866, to succeed F. I. A.

Boole, the records were in a very bad condition and wholly unreliable. Order was created out of chaos, and the system now in use was devised by him.

One of the greatest works for the benefit of the people of the city in which Dr. Harris was engaged was the first thorough tenement-house survey, known as the Sanitary Survey of 1869. It was so complete that the blanks filled in by the inspectors were bound, and they are to-day preserved and esteemed as one of the most precious series of records in the possession of the department. The immediate result of this work was to render tenement-house life less hideous, by making ventilation of dark bed-rooms compulsory. By Dr. Harris's suggestion or direction over 50,000 windows for ventilating purposes were put in such rooms. Dr. Harris was also actively engaged in fighting the epidemic of relapsing fever in 1870, when, there being no hospitals for contagious diseases, a thorough system of disinfecting and fumigation was made necessary. To him also is due much credit for taking the first step in establishing the system of public vaccination. This was in 1869, and about 50 physicians in that year vaccinated between 50,000 and 60,000 persons. He also did efficient work during the cholera epidemic of 1866-7, though he modestly allowed the executive honors of that fight to rest with Dr. Dalton, whose most efficient aid he was at the time. Dr. Harris's uniform politeness, courtesy, and urbanity while connected with the Health Department won for him the title of "the Chesterfield of the department."

When, in 1880, the Legislature organized the State Board of Health, Dr. Harris was made one of the three Commissioners, and he was unanimously elected Secretary and State Superintendent of Vital Statistics. These positions he held at the time of his death. The organization of the entire service was due in great part to his ability as an executive officer. He was also instrumental in the organization of the American Public Health Association, of which he was for several years both Secretary and President. Into the work of this association he entered with his whole soul, devoting all the time he could spare to the advancement of its aims and interests.

Dr. Harris was also widely known as a philanthropist. He was for many years identified with the Prison Association for the Care and Reformation of Discharged Convicts. He was its Corresponding Secretary from 1872 to 1880 and a member of the Executive Committee at the time of his death. He was made State Agent for Discharged Convicts when that office was created, in 1880. He served for a year and a half in organizing the system of State philanthropic work done by that officer. The Prison Association was in session at Charlton T. Lewis's office on the afternoon when the news of Dr. Harris's death was received, and it adopted resolutions recognizing the loss to the organization, and paying tribute to his worth and work. Another tribute to Dr. Harris's work was recently paid by Michael Dunn, Superintendent of the House of Industry at

Houston and Mulberry streets, who on hearing of his death said sorrowfully: "I'm sorry he's gone; he was one of God's noblemen. It was his words with me that first led me to abandon a criminal life and try to live honestly."

Dr. Harris was also identified with the Association for Improving the Condition of the Poor, and was a member of the County Medical Society, the New York Academy of Medicine, the Physicians' Mutual Aid Association, the Society for the Relief of Orphans and Widows of Medical Men, the *Medical Journal* Association, and the Public Health Association of New York. He was also an active or honorary member of various other associations and societies in this country and Europe. He was consulting physician to the country branch of the Nursery and Child's Hospital. He was a voluminous writer of works on sanitary and philanthropic subjects, and also on questions relating to vital statistics.

PHARMACY AND THERAPEUTICS.

A COMPARISON OF WEIGHTS, MEASURES, ETC., PREPARED BY REQUEST FOR CONVENIENCE OF READERS.

FRENCH WEIGHTS IN TROY WEIGHTS.

1 milligramme	equal to	1-65th grain.
1 centigramme	"	1-6th "
1 decigramme	"	1½ grains.
1 gramme	"	15 "
1 decagramme	"	150 "
1 hectogramme	"	1,465 "
1 kilogramme	"	14,720 "
1 myriagramme	"	145,824 "

FRENCH MEASURES OF LENGTH IN ENGLISH MEASURES OF LENGTH.

1 millimetre	equal to	1-1,000th metre.
1 centimetre	"	1-100th "
1 decimetre	"	1-10th "
1 metre	"	39 37-100th inches.
1 decametre	"	10 metres.
1 hectometre	"	100 "
1 kilometre	"	1,000 "
1 myriametre	"	10,000 "

FRENCH MEASURES OF CAPACITY IN ENGLISH MEASURES OF CAPACITY.

1 millilitre	equal to	15 troy grains water.
1 centilitre	"	150 " "
1 decilitre	"	1,500 " "
1 litre	"	(1 qt.) 15,000 " "
1 decalitre	"	150,000 " "
1 hectolitre	"	1,150,000 " "

NOTE.—1 grain troy is equal to 1 and 8-100ths grains in apothecary's weight.

TEMPERATURE AND WEIGHT.

1 lb. water at 60 deg. F.	equal to	79-100ths pint. or 6,067 22-100ths minims.
1 oz. " "	"	equal to 1 5-100ths fl. oz., or 505 60-100ths minims.
1 gr. " "	"	equal to 1 5-100ths minims.
1 fl. drachm water at 60 deg. F.		56 96-100ths grains.
1 fl. oz. "	"	455 69-100ths "
1 fl. gallon "	"	231 cubic inches.
1 fl. pint "	"	28 87-100 "

TEMPERATURES.

CENTIGRADE.—To convert Centigrade (C.) or Celsius to Fahrenheit—multiply by 9, divide by 5, and add 32. Thus 40 deg. C. multiplied by 9 equal 360 deg.; divide by 5, equal 72 deg.; add 32, equal 104 deg. F.

REAUMUR.—To convert Reaumur (R.) to Fahrenheit—multiply by 9, divide by 4, and add 32. Thus 40 deg. R. multiplied by 9 equal 360 deg.; divide by 4, equal 90; add 32, equal 112 deg. F.

PERCENTAGE OF ALCOHOL IN WINES, LIQUORS ALES, ETC.

Strong Port 25, Madeira 24, Sherry 19, Malaga 17, Brandy 53, Rum 53, Gin 51, Whiskey 52 to 54, Burgundy 14, Sauterne 14, Champagne 12 to 14, Tokaya 9, Rudesheimer 10, Catawba 8 to 10, Cider 6 to 9, Mead 7, Burton Ale 8, Scotch Ale 6, Brown Stout 6, Porter 4, Strong Claret 17, Chateau Latour 9, Hock 9 to 12, Lachryma Christi 19, Vin Ordinaire 10.

ALCOHOL ON DIGESTION.—Buchner, in the *German Archives of Clinical Medicine*, reports the results of a series of experiments on the influence of alcohol on artificial and gastric digestion, as follows: 1. Alcohol by itself, up to ten per cent., has no effect on artificial digestion. 2. Increased to twenty per cent. the process is lengthened. 3. A still higher percentage stops digestion entirely. 4. Beer has the same effect if used undiluted. 5. Likewise the red and sweet wines, while white wine, pure, merely delays it. 6. In ordinary gastric digestion, beer appears to act unfavorably, even in small quantities. 7. Wine is the same. 8. When the absorption and secreting functions of the gas-

tric mucous membrane are impaired, alcohol completely checks the progress of digestion.—*Qt. Jl. of Inebriety*, Jan., 1884.

Kairin in Acute Rheumatism.—A paper by Dr. H. Menche, of Rheydt, published in the *Centralblatt fur Klinische Medicine*, No. 47, 1883, forms a small but instructive contribution to the slowly accumulating evidence of the action of kairin, the latest antipyretic drug. The experience of the writer as to its action in the pyrexial stages of pneumonia, pleurisy, and pernicious anæmia is by no means so satisfactory as that of some other observers. It cannot fail to be noticed, however, that a very large dose was employed in every case. In a case of asthenic pneumonia, in which one gramme of kairin was given every hour for seven hours, a marked reduction of temperature took place, but at the same time the toxic effects of the drug became very manifest. It should be added, that large doses of quinine and smaller doses of kairin had been tried previously without result. Depression of pulse, rigors, discoloration of urine, and a marked tendency to collapse were the symptoms accompanying the reduction of fever. In phthisis and anæmia similar effects were produced, severe sweating being also present in the former case. In a case of typhoid fever, in which hyperpyrexia had been uninfluenced by baths and quinine, the administration of seven and a half grains of kairin every hour for five hours had a very powerful effect in reducing temperature, but at the same time severe rigors, great depression of pulse, and delirium rendered the features of the case rather more serious than they had been before. Noting the points of resemblance between kairin and salicin, viz., their rapid antipyretic effect, and their tendency to induce delirium and other toxic symptoms, Dr. Menche tried it upon a case of acute rheumatism. The patient had been ill for six days, and several joints had been affected. Three and a half grains of kairin were given three times in one morning, and seven and a half grains four times in the same afternoon. Severe sweating was induced. Less pain was felt, but the joints were still tender in the evening. On the following day the drug was given again in smaller doses, with still further relief to pain. A relapse followed in twenty-four hours, pain returning as severely as before, with signs of pericarditis. With the free use of kairin (seven grammes in twelve hours) the pain and febrile disturbance were again reduced. The whole illness lasted nineteen days, during nine of which the patient took fifty grammes of kairin. A second case, of a patient with long-standing mitral disease, was also treated with frequent doses, with equally good results. Dr. Menche's experience of the drug thus leads him to compare it favorably with salicylate of soda as an antipyretic in cases of acute rheumatism, but to use it with caution in cases of other specific fevers.

Quinine has just sold at $1.40 an ounce, which, it is said, is the lowest price quoted in twenty years. During the war it reached its highest price, $4 per ounce.

The Boiling Point of Oxygen.—Our knowledge of the liquid and solid states of the bodies so long known as the permanent gases is increasing rapidly. M. Wroblewski has succeeded in producing both liquid and solid oxygen in considerable quantity, and is now engaged in trying its effects in the liquefaction of hydrogen. Liquid oxygen is colorless and transparent. It boils at −186° C. (−303° F.), and freezes into crystals, which adhere to the surface of the vessel. Its critical temperature at a pressure of 50 atmospheres is −113° C. (−171° F.). When nitrogen is exposed under pressure to the low temperature of boiling oxygen, it freezes in crystals of remarkable size and beauty. Ozone, it will be remembered, condenses easily into a blue liquid, which gives a very beautiful blue vapor; in this liquid state it decomposes easily and with explosion.

Oil of Cloves as a Disguise to the Odor of Chloroform.—The odor of chloroform is so very objectionable to some patients that it is very difficult to anæsthetize them in the usual manner. In order to overcome this odor, the plan commonly followed in England, according to the *Deutsche-Amerikanische Apotheker Zeitung*, is to add to the chloroform a small quantity of ether and ethereal oil of cloves. In Prof. Nussbaum's operations, ten to twelve drops of the mixture are dropped upon a napkin employed in administering the chloroform. This so far corrects the odor of the latter that it is rarely refused by the patient.—*Therapeutic Gazette.*

Salts of Nickel.—It seems to Dr. Da Costa that the preparations of nickel, especially the bromide, will be found additions to our therapeutic resources; and are certainly worthy of more careful study than they have hitherto received.

Liquor Acidi Phosphorici.—The Rumford Chemical Works "warn all persons from selling *any* imitation of Horsford's acid phosphate; or *any* 'acid phosphate' under any style of label or form of package, for use as a medicine or article of diet, or ingredient to be employed in beverages or food; or any proprietary article for use as a medicine or beverage, under the name 'acid phosphate,' as they will thereby infringe their trade mark, copyright or patents, and render themselves liable for damages." The preparation, however, made after the formula of Professor William Pepper, of the University of Pennsylvania, and sold under the name of Liquor Acidi Phosphorici, may with benefit be used for the acid phosphate compound in all the conditions for which the latter is lauded. Each fluid drachm of this preparation contains: 3 grains phosphate lime, 2 grains phosphate magnesia, 1½ grains phosphate potassa, with excess of free phosphoric acid.

Dr. Frederick Long (*British Med. Jour.*) writes that ten grains of citrate of potassium will dissolve fifteen grains of gallic acid in an ounce of water. This is an important discovery, as heretofore no feasible means of dissolving the acid has been known.

Potassium Cyanide.—A German convict in Chicago committed suicide recently, and before doing so left a commemorative rhyme, which runs as follows:

> "Here's a recipe for a popular suicide:
> Take twenty grains of potassium cyanide."

Where Holloway got His Ointment.—If you will allow me, I will furnish from my own personal experience the true history of Holloway's ointment. In the year 1835 I held the position of dresser at St. Thomas's Hospital, under the late Mr. Travers (at that time the senior surgeon), and I perfectly well remember Mr. Holloway bringing an Italian named Albinolo to the hospital for the purpose of introducing him to the surgeons as the inventor of an ointment said to be remarkably efficacious in the cure of ulcers on the leg, and similar affections, and soliciting a trial of it in the wards of the hospital. In accordance with this request Mr. Travers desired me to give it a trial, and report the result to him. I found the ointment to be a very simple and harmless compound, very similar to our own simple cerate of wax and olive-oil, and I certainly found it to possess no wonder-working curative powers, and reported of it accordingly. Some time after, an application was made either by Albinolo or Mr. Holloway to Mr. Travers for something in the shape of a testimonial as to its good effects, but, acting on my report, Mr. Travers declined to give anything of the sort. A letter of some sort, however, was obtained from Mr.

Joseph Henry Green, by whose dressers the ointment had also been tried, and an extract from this letter, which was made to assume the appearance of a recommendation of the ointment, was then inserted in the advertisements in the papers. Mr. Green was so much annoyed at his name being associated with a quack remedy that he applied to the Court of Chancery for an injunction to stop the further publication of his name in conjunction with the ointment. After this the ointment was advertised as Albinolo's ointment for some time, and then the name of Holloway was substituted.

It is evident that the calling of this simple ointment "Holloway's ointment" was an entire fraud. The history of Holloway's pills is doubtless very similar. This absolute charlatan is being deified in England for his "princely charities," and yet the thousands of pounds which he owed at the time of his first failure he refused to pay, on the ground that they were not "legal debts."

REVIEWS.

THE PROCEEDINGS OF THE NAVAL MEDICAL SOCIETY. Vol. I., No. 6.

These publications have so far been unusually interesting, and reflect much honor on all concerned in their preparation. This number contains excellent papers by Drs. Albert S. Gihon, John M. Brown, and J. H. Kidder. The paper "Thirty Years of Sanitary Progress in the Navy," by Dr. Gihon, is, like all that he writes, exceedingly interesting and valuable.

It is often said by the ne'er-do weels, the lazy, the pessimists, etc., that it is useless for doctors to try and enlighten the public, and that all such efforts are useless, and a mere loss of time. Dr. Gihon, in this admirable address, given by him as President of the Naval Medical Society, shows how erroneous are such views. The navy, as is well known, is wedded to its idols, and reform there is difficult indeed; but strong and repeated blows do their work fully and well. In this work Dr. Gihon has been for two decades pre-eminent. He thus gives these two pictures of the past and of the present:

"After a long and stormy passage through the Indian Ocean, the Levant arrived at Anjer Roads, in Java, on the 25th of March, 1856, when the heat was intense Her crew were enfeebled, and many of them exhibited evidences of the scorbutic cachexia, in consequence of the deteriorated and unsuitable character of their food, which the insufficien daily issue of wood did not allow to be properly cooked; of their short allowance of water, which was impure; of their confinement on board ship since the previous October, when she went into commission; and of their unusually arduous labors in the high southern latitudes, where they were exposed for several weeks to a continuance of cold, damp, and rainy weather. Notwithstanding their condition they were laboriously employed, working from daylight until dark, for two days, getting on board wood which was wet and green, and water *white from*

organic impurities, and which had run through a series of dirty wooden troughs into an equally dirty reservoir. The vessel sailed on the evening of the third day, and within a few hours, that night, twenty-four cases of *cholera communis* were reported, two of the lieutenants among the number. Few of these men were ever able afterward to do their duty properly. As events proved, this was their preparation for a tedious passage of *forty-six days* across the China Sea to Hong Kong, a distance of only twelve hundred miles, but entirely within the tropics (latitude 8° south to 20° north), at the season of the change of monsoons, when the high temperature is not moderated by any breeze, nor the scorching heat of the tropical sun scarcely ever shielded by a clouded sky, and when the glassy surface of the sea reflects and concentrates the heat upon the ship, whose black sides greedily absorb it. The deck load of freshly-cut green wood added an unwholesome moisture to the atmosphere, and the unfiltered water, with which the tanks had been filled, preferred for cheapness, soon decomposed and became offensive and unpalatable. The men had gorged themselves with oranges, mangosteens, and other fruit during their short stay at Anjer; but the supply of chickens, vegetables, and fruit which they brought away with them was soon exhausted, and they were again fed with the mahogany-like 'salt horse,' green fat pork, worm-eaten bread, weeviled beans, and musty rice, which they had to eat in the chilly regions of the Southern Ocean. The paltry interval of three days in ninety-seven had brought no relief to their jaded and debilitated bodies; but they were occupied with the still severer labor of working ship for every 'cat's paw,' under the additional morbific influence of a vertical tropical sun. Most of the intractable cases of diarrhœa and dysentery, and the large majority of deaths during the cruise, can be directly traced to this period. The asthenic habit of constitution, which rendered these complaints fatal, was evidently fixed upon them by the various concurrent circumstances in operation thus early in the cruise. After her arrival on the station, this vessel did not, like the rest of the squadron, employ a Chinese 'fast-boat,' and the results of this and other violations of hygienic mandates were plainly shown in a sick-list of *thirteen hundred and forty-five* cases during the thirty months of her commission. Nor were the sickness and inefficiency of the crew the only consequences of this utter disregard of sanitary laws. One of the officers, who inspected her at the end of her cruise, told me that she was the most unclean and ill-conditioned vessel he had ever seen.

"Understand, I am reading from leaves of my own experience—an experience of an allowance of a quart of water a day for cooking, drinking, and washing, and which sometimes had to be strained through closed teeth, with eyes shut, and nose held—an experience which made pickles and molasses luxuries, and 'swanky' a very nectar. In those days, when it was a pastime to wager the number of weevils and worms per square inch; salt beef, which was termed *horse* from its fiber, and

mahogany from its density and color; pork, softer in texture and green from putrefaction; rice which was mouldy; and beans, which either could not be boiled soft or which had surrendered their starchy contents to feed and house the myriad insects which peopled them.

"As a companion picture, I shall briefly call your attention to a man-of-war I have just officially visited, as a member of the Board of Inspection, on her return from a three-years' cruise, part of the time on the Coast of Africa, there having been during the thirty-six months among her two hundred and twenty men and officers but a single death from disease, an average daily sick-list of only 4.22, including trivialties that formerly were not reported, and only twelve men invalided, five of these having been sent out of the ship before she left the United States. Her berth-deck, bright with light from large rectangular ports, was clean and dry, having been covered with shellac, and easily and speedily cleansed. Her comfortably clothed men were well fed with substantial and abundant food, which they ate decently, sitting on benches at clean tables. Her prison-brig was clean from mere disuse, though its very cleanliness were enough to tempt a skulker.

"Satisfactory as the Galena's condition was another vessel, the Trenton, which I inspected a few weeks later, at the beginning of her cruise, represents still further progress in sanitary prevision. Here ventilation by aspiration has been provided for, tubes communicating with every apartment and store-room and *cul-de-sac*, from which vitiated air is drawn to be discharged in the open air of the spar-deck, with the successful practical result that, notwithstanding the necessarily crowded condition of the berth-deck at the close of the first watch, all but a quarter-watch being below, not a trace of animal odor was perceptible to the senses. Illumination was obtained by day by large unobstructed ports, and by night by electric lights, which were placed in every apartment, store-room, and passage-way. Where there are light and fresh air and dryness at the outset of a cruise, there will be neither dirt nor vermin nor disease at its close; and the effort to exclude moisture on board this ship is not confined to shellacking the berth-deck, but a capital steam drying-room has been placed at the heel of the bowsprit, where men's clothing, damp towels, and other wet fabrics are at once dried.

"Latrines and bath and wash-rooms under the top-gallant forecastle; mess-tables and benches; mess-lockers and clothes-lockers; a place where and opportunities when men can read and write; and frequent daily liberty to go on shore, if not already common to every vessel, are yet now so generally the concomitants of the well-officered and well-disciplined and efficient ship, that ere long their absence will be accounted a fault.

"The naval sanitarian to-day has a comparatively easy task. He has no longer to preach to unwilling ears, but rather to see that he is not outstripped by his shipmates of other corps. The bulky volume of Naval Hygiene, with its chapters of horrors, is shrinking to a little pocket

memorandum book. Executive officers themselves point with pride to the shellacked decks. It was a line colleague on the Board of Inspection, Admiral Rhind, who strenuously insisted upon a wash-room for the crew, and Captain Harmony has devised a most admirable removable canvas-bath for them. A practical seaman, Commander Howison, has been the most persistent advocate of benches and tables at which the man before the mast can sit and eat, without danger of becoming less a sailor; and another commanding officer, Greer, whose nautical reputation is beyond question, demonstrated the practicability of the system of daily liberty-lists. If I began my career, always in arms, contending for the right and grudgingly gaining a little of it, I have just ended my duty on the Board of Inspection with colleagues, who never once, during all the years of our association, antagonized a suggestion having a sanitary object, but more than once themselves advanced them, and I gladly take this occasion to bear testimony to their zealous co-operation. It is true that there are still men who profess to believe in holy-stoning a deck rather than in shellacking it; there are some who would send the mess-tables and benches on shore, and restore the greasy mess-cloth; as there are some whose daily list of punishments has more names upon it than their daily list of liberty men—if, indeed, there be any such.

"Only a few days since, coming from the clean, bright, beautiful berth-deck of the "Trenton," we happened to go on board another vessel, on which clumsy mess-chests encumbered the berth-deck, where the men were squatting on their haunches around black mess-cloths, in the dim light, which came through the old-fashioned six-inch air-port. The contrast was marked, and Commodore De Krafft, the President of the Board, turned to me and said: 'This carries me back thirty years.' And later still, we saw on board another vessel, fortunately soon to be abandoned, the abominable perforated iron plates which used to be placed the whole length of the berth-deck, opening into the framespaces and permitting the emanations of the hold and bilge to find vent under the hammocks of the men, and beneath the bunks in the state-rooms of the officers."

A noble triumph of the naval medical officers is this, and an eloquent answer to all doctors who advocate submission and silence.

It is to be hoped that the members of the Naval Society will continue to give interest and value to their publications.

ELEMENTS OF HISTOLOGY. By D. KLEIN, M.D., F.R.S., Joint-Lecturer on General Anatomy and Physiology in the Medical School of St. Bartholomew's Hospital, London. Illustrated with 181 engravings. Philadelphia: Henry C. Lea's Son and Co. 1883. Price $1.50.

This is a most convenient manual for those who do not care to study histology in its entire and minute elaboration. It gives a very fair idea and very reliable facts in regard to the subject, and to those who are satisfied with "a little learning" will prove to be quite satisfactory.

It is, however, at best, superficial in its treatment of this grand science. All manuals must be so.

Elements of Surgical Pathology. By Augustus J. Pepper, M.S. M.B., Lond., F.R.C.S., Eng., etc. Illustrated with 81 engravings. Philadelphia: Henry C. Lea's Son & Co. Price, $1.50. Pp. 503, 12mo.

This work is very unevenly written. The portions devoted to scrofula, syphilis and tubercle are inferior, while that on septic poisoning manifests decided ability, and a familiarity with the best or most reliable authorities of the present period. It is not up to the standard so far maintained in the "Student's Series."

Surgical Applied Anatomy. By Frederick Treves, F.R.C.S., Assistant Surgeon to and Senior Demonstrator of Anatomy at the London Hospital, Examiner in Anatomy at the University of Aberdeen, Wilson Professor of Pathology, R.C.S.Eng. Illustrated with 61 engravings. Philadelphia: Henry C. Lea's Son & Co. Price $1.50.

The author of this little book is one of the most prominent of the younger surgeons of London. His book is a very useful guide, and contains many practical hints worthy of the attention of the best surgeons. It is, however, chiefly a vade mecum, a handbook, and remembrancer. It is published attractively.

Clinical Chemistry. An Account of the Analysis of Blood, Urine, Morbid Products, etc., with an Explanation of some of the Chemical Changes that Occur in the Body in Disease. By Charles Henry Ralfe, M.A., M.D ,Cantab., P.R.C.P.,Eng. Illustrated with 16 engravings. Philadelphia: Henry C. Lea's Son & Co. Price $1.50

The reader can see from the title of this little book that it is one which supplies a want felt by every practitioner. It is well and honestly written, neatly issued, costs little, and will be useful to every physician.

The Hygeian Home Cook Book. By R. T. Trall, M.D. Fowler & Wells, N. Y.

This is the "cook book" of a vegetarian. There is not a word in it in reference to meats, eggs, poultry, fish, or shell-fish. It is absolutely worthless to any but cracked-brain enthusiasts, who are ignorant of even the primer lessons in dietetics, as built on a rational or scientific physiology. Acid and sub-acid, superannuated old maids, weak-brained theorists, and silly propagandists might be misled by such trash, but with one of any sense, it goes into the waste-basket, where only it should be sent.

BOOKS AND PAMPHLETS RECEIVED.

From William Wood & Co., 56 and 58 Lafayette Place, New York.

Pathology and Treatment of Gonorrhœa. By J. L. Milton, M.D.

Legal Medicine. By C. M. Tidy, M.D.

Manual of Practical Hygiene. By E. A. Parkes, M.D.

Diseases and Injuries of the Horse. By F. O. Kirby, M.D.

From P. Blackiston, Son & Co., Philadelphia, Pa.

Medical Directory of Philadelphia. 1884.

Arrest of Development. By H. F. Hendrix, M.D., St. Louis, Mo. 1884.

Medical Symbolism. By T. S. Sozinskey, M.D., Philadelphia. 1884.

Removal of Ovaries and Fallopian Tubes for Chronic Ovaritis. By Thomas H. Hawkins, M.D., Denver, Colorado.

Annual Address before American Academy of Medicine. By Henry O. Marcy, M.D., President, Boston, Mass.

A Few Observations on the Use of Chloroform in Natural Labor. By H. C. Ghent, M.D., Belton, Texas.

World's Exposition—Cotton Centennial. New Orleans, La.

Recent Wonders in Electricity, Electric Lighting, Magnetism, Telegraphy, Telephony, Etc. By Henry Green. Illustrated. $2.00 122 East Twenty-sixth street, New York.

Report of State Board of Health. West Virginia. 1884.

Proceedings of Naval Medical Society. Vol. I., No. 6.

Malaria as an Etiological Factor. By Simon Baruch, M.D., New York.

Memoirs of J. Marion Sims, M.D. By Thomas Addis Emmet, M.D., and W. O. Baldwin, M.D. Report of Memorial Meeting of Medical Society of the District of Columbia, D. C. Reprints.

N. Y. State Medical Association, Founded 1884.

Capon Spring Baths. Capon Springs, Va.

Recent Progress in Diseases of the Nervous System. By Talbot Jones, M.D., Minn.

Sixteenth Annual Report of the N. Y. Orthopædic Dispensary. First Annual Address. By S. C. Busey, M.D., D.C.

MISCELLANEOUS.

The Sims Memorial Fund.

TO THE MEDICAL PROFESSION AND OTHERS THROUGHOUT THE WORLD:

The great achievements of Dr. J. Marion Sims call for some more lasting testimonial than obituaries and eulogies. To him medical science is indebted for much brilliant and original work, especially in gynæcological surgery. Those who have been benefited by his teachings and new operations, and such as have had the direct advantage of his personal skill, are among the first to recognize and acknowledge this debt.

To him is due the honor of giving the first strong impulse to the study of gynæcological surgery in America.

It is believed that the medical profession everywhere, the vast number of women who owe their relief from suffering directly to him, and those who realize the benefits he first made possible, will gladly unite thus to honor the man through whose original and inventive genius such blessings have been conferred upon humanity.

At the suggestion of many friends, therefore, the subjoined committee has been organized, and it is proposed that a suitable monument be erected to his memory in the City of New York.

To this end the active co-operation of the medical profession and the many other friends of Dr. Sims throughout the world is respectfully solicited. Contributions of one dollar and upward may be forwarded to this journal which has been constituted the treasury of this fund—*The Medical Record*, New York.

Fordyce Barker, M.D., Chairman.
George F. Shrady, M.D., Secretary.

T. Addis Emmet, M.D., New York.
T. Gaillard Thomas, M.D., New York.
William T. Lusk, M.D., New York.
William M. Polk, M.D., New York.
Paul F. Mundé, M.D., New York.
S. O. Vander Poel, M.D., New York.
Frank P. Foster, M.D., New York.
E. S. Gaillard, M.D., New York.
A. J. C. Skene, M.D., Brooklyn, N. Y.
S. D. Gross, M.D., Philadelphia, Pa.
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C. D. Palmer, M.D., Cincinnati, Ohio.
G. J. Engelmann, M.D., St. Louis, Mo.
R. Beverley Cole, M.D., San Fr'sco, Cal.
H. F. Campbell, M.D., Augusta, Ga.
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E. S. Lewis, M.D., New Orleans, La.
J. T. Searcy, M.D., Tuskaloosa, Ala.
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H. J. Byrd, M.D., Baltimore, Md.
W. J. Howard, M.D., Baltimore, Md.
D. W. Yandell, M.D., Louisville, Ky.
Seth C. Gordon, M.D., Portland, Me.
F. E. Beckwith, M.D., New Haven, Conn.
A. W. Knox, M.D., Raleigh, N. C.
L. W. Oakley, M.D., Elizabeth, N. J.
E. A. Woodward, M.D., Brandon, Vt.
Alfred Crosby, M.D., Concord, N. H.
E. S. Dunster, M.D., Ann Arbor, Mich.
A. J. Stone, M.D., St. Paul, Minn.

Other names may be added to this list from timeto time. Over $2,200 paid in.

Novel Laryngoscope.—Dr. Thomas Dimock states as follows to the *Therapeutic Gazette:* "One of the best methods for examining the throat without the aid of the ordinary laryngoscope is the following; Bring the patient near a good light of any kind, and after the mouth has been opened place on the tongue a depressor, then request the patient to yawn. The larynx will immediately rise up, and every part necessary to be seen will be brought fully into view. The nose should be held, as this compels breathing through the mouth. Thus the velum pendulum palati is raised, the anterior and posterior pillars become widened, exposing the back of the tonsils and pharynx. The tongue must be pressed downward very gently, as it always resists harsh treatment."

Aphthous Vulvitis of Children.—Sarazin (*Thèse de Paris*, July, 1883) gives the following conclusions regarding this affection: 1. Aphthous vulvitis is a well-marked disease. It is peculiar to little girls from two to five years of age. Rare in private practice, it is observed especially in hospitals. 2. Measles is the principal cause of this affection. It furnishes two-thirds of the cases. 3. Gangrene of the vulva has most frequently aphthous vulvitis for its point of departure. 4. The prognosis, which was unfavorable before the employment of the iodoform treatment, has become quite favorable since the introduction of this agent as a topical application. 5. The treatment consists in sprinkling the affected parts with iodoform powder, and keeping them separated with pledgets of lint. The internal administration of tonics is a useful adjuvant of the local treatment.—*Journal of Cutaneous and Venereal Diseases*, Oct. 1883.

Transplantation of Muscle in Man.—Helferich (*Archiv. f. Klin. Chirurgie*, B. XXVIII., p. 562) reports a case in which, as a result of the removal of a fibro-sarcoma from the arm of a woman aged 36, the whole upper half of the biceps, with the exception of a thin strand at its outer part, was extirpated. Into the cavity which was left he promptly introduced a large fragment of the biceps from the leg of a dog. The cut surfaces were carefully brought together with sutures, as little injury as possible being done to the parts. The transplanted muscle was much more voluminous than the original portion, and was, long after the operation, distinctly perceptible to the touch. Electric experiments, instituted about three months after the operation, showed that the biceps reacted naturally to both kinds of current. The high point of stimulation, situated at the point of section of the musculo-cutaneous nerve, was, however, absent. The movements at the elbow-joint were almost normal.—*Lancet.*

THE MICROBE OF HYDROPHOBIA.—At the Academy of Medicine recently, Pasteur referred to his discovery, in the saliva of a child who had died of hydrophobia, of a microbe susceptible of cultivation and of inoculation in guinea-pigs, causing their death, and stated that after culture-experiments it could be introduced into rabbits without fatal results.—*La France Méd.*, No. 64.

MEDICAL NEWS.

A UNITED STATES PHARMACOPŒIA.—The proposed effort of the United States Government to obtain control of the United States Pharmacopœia, by having it revised periodically by committees of the Army, Navy, Marine Service, the American Medical Association, and the American Pharmaceutical Association, is such a supreme piece of folly as to be unworthy of criticism. It is remarkable that any portion of the *disinterested* medical press has given the subject serious consideration. Barnum did succeed in making "a happy family," by placing the cat and rat, the dog and cat, the hawk and fowl, etc., in the same cage, but even Barnum could not induce the organizations above mentioned to work together with any peace and harmony.

PHYSIOLOGY, HYGIENE, AND ALCOHOL IN THE PUBLIC SCHOOLS.—Senator Gilbert's bill (in the New York Legislature), requiring instruction to be given in the public schools of the State on the subject of physiology and hygiene, with special reference to the effects of alcohol on the human system, occupied most of one session of the Senate. One of the opponents of the bill offered an amendment, providing that a "fearful example" should be hired for each school at $1,000 per annum. The bill is a foolish one.

THE BICEPS OF THE MAN AND THE BEAR.—It has been generally believed that the biceps of the bear is far more powerful than that of man. All who have been thus deceived will read the following piece of news with great interest and satisfaction: "There is a pleasing tale of a Wisconsin girl who attended a picnic and wandered some distance into the woods with the possible expectation that some one would follow her. While she was seated on a log wondering if *he* would never come, a grizzly bear stole up behind her, and bracing his hind feet against the log, hugged her *with all his might*. Dreamily closing her eyes, the girl murmured: "Is that you, Charles? Clasp me closer, dear," whereupon the humiliated bear went back to the forest, "all brokey up."

A MONTHLY LETTER FROM PARIS—The readers of this item of News will be glad to learn that Dr. Edward Warren (Bey) will send from Paris a monthly letter to this JOURNAL. There is no one who is better qualified to make such communications interesting and instructive.

CENTRAL LUNATIC ASYLUM.—The investigation of the management of the Central Lunatic Asylum, at Anchorage, Ky., has been in progress before a committee appointed by the Legislature. Daily sessions have been held in Louisville. Dr. Robert H. Gale, the Superintendent, is represented by an attorney, and the investigation appears to be thorough and impartial. Facts have been brought to light that are simply astounding. It is hard to believe that the heartless cruelties that have been practised on the helpless wards of the State, by brutal attendants, could possibly have escaped the attention of Dr. Gale. If he was ignorant of what has been done, he is certainly not the proper man for the place, and ought to be summarily removed.—*The Danville (Ky.) Advocate.*

Twenty per cent. of funeral receipts are offered by London undertakers to London physicians who give them or secure them an order. They have imitated the retail druggists.

The Dwight Life Insurance Case.—The expert testimony in the contest of the insurance companies to escape payment of the amount of the policies in this now famous case has not, thus far, been fully printed. Dr. Horatio C. Wood, a professor in the University of Pennsylvania, who was one of those experts on behalf of the life insurance companies, contributes to the *Medical News* a summary of the evidence. The professor says the experts were remarkably free from serious disagreement, that there was no evidence to show that overdoses of morphia had been given, and that no medical man ventured to assert that Colonel Dwight died from other cause than strangulation. Colonel Dwight's death occurred in November, 1878, at which time his life was insured for $256,000; only the first quarter's premium was ever paid on any of the policies, their annual maintenance would have cost over $8,000, the insured was at the time in bankruptcy, and the first premiums were paid with borrowed money. The most of the insurance companies have refused payment, claiming that Colonel Dwight committed suicide; and although the courts have once given judgment against the companies, it is said they will appeal and further contest the case.

Suspended Because Color Blind—Philadelphia, March 2.—The Pennsylvania Railroad Company still continues the examination of its employees for color blindness and other defects. This has been continued for a number of years, the men being examined in gangs. The general manager of the company states that these examinations have resulted thus far in ascertaining that about 4 per cent. of those examined have proved defective either in hearing, vision, or ability to distinguish colors. Nearly 500 men have been so unfortunate as not to pass the examination, and were suspended.

Folly.—The grant of £10,000 to the Physiological Laboratory of Oxford is considered as a national disaster by the British anti-vivisection organs.

Newspaper Notoriety.—A recent Sunday issue of the *New Haven Register* treats its readers to almost a column and a half descriptive of the details of a Cæsarean operation, and it is only a few months since a Philadelphia newspaper gave about as full an account of a Porro-Muller operation. In both instances the names of the operators, as well as those of their assistants and the consultants, are given most impartially, coupled with glowing tributes to their skill and learning.

About Maccaroni.—The maccaroni made in the United States is considered superior to that from Italy and brings a higher price. American flour is greatly preferred by the manufacturers, and farina is considered still better. Most of the maccaroni consumed in America is made in New York and Philadelphia.

Powers & Weightman lost nearly their entire chemical works by fire February 29th. Loss $1,000,000.

Dr. Robert Coleman, age 53, one of the most prominent and popular physicians in Richmond, Va., died recently. Dr. Coleman served in a professional capacity in the Confederate Army throughout the war, being at one time chief surgeon of Stonewall Jackson's corps, and later Medical Inspector of the Army of Northern Virginia. Since the war he has filled one of the principal professorships of the Virginia Medical College.

WESTON'S WALK.—Shortly after finishing the first half of the whole 5,000 miles of his great task, in Liverpool, on the 17th of January, at about half-past 9 P.M., Weston underwent a critical examination by Mr. Sibley Hicks, of that city, at the request of a physician in London. Mr. Hicks reports Weston as walking splendidly, and, after retiring, having a pulse of 68, with a temperature of 98°, and weighing 9st. 10lbs. 4oz. Weston had thus gained 2¼lbs. in the last 500 miles, notwithstanding that he had, on the preceding day, walked 47 miles without a halt. Mr. Hicks considers Weston in perfect health, and an excellent specimen of strict temperance.

PHOTOGRAPHY IN HOSPITALS.—Most of the French hospitals, according to a contemporary, *Engineering*, have now a photographic studio attached for photographing the sick persons at different times. The rapid dry-plate process is employed, and Professor Charcot, of La Salpetrière, has devised an electrically worked camera, which is very useful in taking a series of views in rapid succession.

PROGRESS OF THE JOHNS HOPKINS HOSPITAL.—The annual meeting of the trustees of this institution, held on the 12th inst., was the occasion for making known its present condition and future prospects. The expenditures during the last year were $211,006.36. It is estimated that over $400,000 more will be required to finish the work. The maximum amount of annual income available by the trustees does not now exceed $135,000, and it is therefore evident that economy is necessary with judicious expenditure of the funds at command. The trustees have wisely determined to proceed slowly, having the work done well and thoroughly, recollecting that it is not for a day but perhaps for centuries. They therefore announce that with the available income it will be impossible to open the hospital before October 1, 1886, a year later than was hitherto contemplated.

THE TIME IT TAKES FOR THE PASSAGE OF A PENNY THROUGH THE BOWELS.—Dr. A. Ten Eyck, of De Forestville, N. Y., writes that a girl aged two years, while playing with some pennies, accidentally swallowed one. At the end of six months it was discovered in one of the fæcal passages.—*N. Y. Record.*

NOTE.—This must have been a bad penny. Dr. Chapman, of Philadelphia, says that "good coin will always 'pass' without difficulty."—ED.

DR. B. W. RICHARDSON, of London, enjoys the distinction of being the editor, publisher of, and only contributor to a new quarterly medical journal, entitled *The Asclepiad.*

THE Queen has been pleased to grant to Sir Richard Owen, in recognition of his eminent services to science, an addition of £100 to the Civil List Pension of £200 a year which he at present enjoys.

NEW YORK STATE MEDICAL ASSOCIATION.—In consequence of the action of the State Medical Society in resolving to adhere to the New Code of Ethics, a number of members who are supporters of the National Code met at the Delavan House, Albany, February 6th, and formed a new State Society, which is to be known as the New York State Medical Association. Sixty-five gentlemen from all parts of the State signed the roll, and much enthusiasm was displayed. The following officers were elected: President, Dr. H. D. Didama, of Onondaga County; Vice-Presidents, First District, Dr. J. Mortimer Craw, Jefferson County; Second District, Dr. Tabor B. Reynolds, Saratoga County; Fourth District, Dr. B. L. Hovey, Monroe County; Fifth

District, Dr. N. C. Husted, Westchester County; Recording Secretary, Dr. Caleb Green, Cortland County; Corresponding Secretary, Dr. E. D. Ferguson, Rensselaer County; Treasurer, Dr. John H. Hinton, New York County; Advisory Council, Drs. John P. Gray, Conant Sawyer, J. W. Moore, Thomas Wilson, Ely Van de Warker, Frederick Hyde, M. W. Townsend, E. M. Moore, E. R. Squibb, Austin Flint, Jr., and J. W. S. Greeley. The Association will next meet in New York on the third Tuesday in November, 1884.

The Sacred White Elephant.—The Siamese minister in London announces, apropos of Mr. Barnum's white sacred elephant from his country, that the existence of sacred elephants, white or black, is altogether unknown in Siam, and the dermatologists of London say that such pretensions as the beast can make to being white are based on a disease, leucoderma. Robbed of the attributes of sacredness and whiteness, it becomes simply an elephant with a disordered skin. —*Boston Medical Journal.*

It is satisfactory to learn from Mr. Mundella that a Bill is under the consideration of the Government, dealing with the whole subject of patent medicines, and that the measure will shortly be introduced in the House of Lords.—*Lancet.*

Trichinæ.—It seems to have occurred to the French Government that the opinion of the highest medical authority in France would be worth having on the question of pork importations. Accordingly the Minister of Commerce has interrogated the Academy of Medicine and has been informed that the admission of foreign salt pork could be permitted without fear, and that it has been clearly proven that no danger to the public health has been caused by such importation. As this fact—it is not merely an opinion—has been known to the Government for at least two years, it would be rash to suppose that its assertion by the Academy of Medicine will produce any change of policy. But it will afford an excellent excuse for a change, if the Government has concluded that public opinion requires one.

The Illinois State Board of Health.—At the last annual meeting of the Board, the officers were re-elected, as follows: The Hon. Newton Bateman, LL.D., president; John H. Rauch, M.D., secretary; A. L. Clark, M.D., treasurer. It was ordered that diplomas issued by the College of Physicians and Surgeons, of Joplin, Mo., and by the Kansas City Hospital Medical College for the current session, 1883-84, could not be received as the basis for certificates entitling to practice in Illinois.

The death of Dr. George Engelmann, of St. Louis, Mo., occurred at 5:30 o'clock P.M., February 4. He had been ill for about a week and was only considered dangerously so about three days before his death. He passed away just two days after the seventy-fifth anniversary of his birth. Dr. Engelmann was born in Germany, at Frankfort-on-the Main, February 2, 1809.

In April next, Professor Frerichs will have completed twenty-five years of service as Director of the Medical Clinic in Berlin. It is intended to celebrate the occasion by a public festival; and a committee, consisting of Professors Bardeleben, Lauer, Leyden, and others, has been formed to carry out the object. A marble bust of Frerichs will be unveiled on the occasion.

"The Proceedings of the Medical Society of the County of Kings."—This monthly publication will be discontinued on the completion of its eighth volume.

Sir Spencer Wells in Italy.—Sir Spencer Wells, making a short holiday in Italy, has been received at Rome and Naples in a manner which must be highly gratifying to British surgeons. At Rome, he was introduced to the students by Professor Mazzoni, and received with southern enthusiasm. At Naples, he was publicly addressed at the Anatomico-Pathological Institute of the Clinical Hospital, before a crowded assembly of students, by Professors Schrön and D'Antona, acknowledging the services he had rendered to the surgery of the whole world, and wishing him long life and prosperity. In reply, Sir Spencer addressed the professors and students in Italian, responding to their cordial welcome, and expressing his hope that some of those present, now students, would hereafter deserve and receive from the future surgeons of Great Britain as gratifying a reception as he had the pleasure of acknowledging from his Italian brethren.

Swiss Medical College.—The medical students of the Swiss Universities are thus distributed: Basle, 108; Berne, 127 males and 28 females; Zurich, 184 males and 33 females; Geneva, 84 males and 7 females. Only five of the women are Swiss, and all the others are Russian.

The British Medical Association Meeting at Belfast.—The fifty-second annual meeting of the Association will be held on July 29, 30 and 31, and August 1, 1884, at Belfast, under the presidency of James Cumming, M.A., M.D., F.K.Q.C.P.I., Professor of Medicine, Queen's College, Belfast.

The Sewer System of Denver.—Colorado and Denver (as its chief city) has become so much of a health resort that it has become very essential that its sanitary arrangements should be well looked after. The difficulty about its water supply has been overcome by the boring of artesian wells, which furnish an abundant supply of most wholesome water, and a most efficient system of sewerage has been introduced.

The Medical Society of North Carolina will hold its annual meeting in Raleigh on the 20th May. It is expected that the meeting will be a large one, as it will be a very important one, a new Board of Medical Examiners will be elected to serve for the ensuing seven years.

In a bill introduced by him into the House of Commons, Mr. Monckton, M.P., proposes to direct every sanitary authority to appoint inspectors to supervise the arrangements of houses in their bearing upon the health of the inmates.

The first annual report of the New York Skin and Cancer Hospital has just been published. In it the following figures in reference to the increasing mortality from cancer in New York City are given: In 1869 there were 304 deaths from cancer, being a little over one per hundred of deaths from all causes. In 1879 there were 572 deaths from cancer, or a trifle over two per hundred of all deaths, that is, in ten years the proportion of deaths from cancer had nearly doubled. In 1880 there were 659 deaths from cancer, or 2.06 per cent. of all deaths, the mortality from the disease being greater than that from scarlet fever, which amounted to 618. In 1881 cancer caused 707 deaths, and 1882 731 deaths, while during the fourteen years mentioned there were 6,843 deaths from it. Up to the time of the establishment of this hospital cancer patients were admitted to only one or two institutions in the city, and then not for the purpose of treatment, but simply to await the fatal termination of the disease, and nowhere in this country had cancer cases been grouped together with a view of studying the disease as to its nature and cure.

Died, in Fort Worth, Texas, January 23, 1884, Mrs. Fannie Smith Daniel, wife of Dr. F. E. Daniel, of the *Courier-Record*. Born July 28, 1848, and aged at the time of her death 35 years, 5 months and 25 days.

Royal Doctors.—The prince physician, Duke Charles Theodore of Bavaria, M.D., has been promoted to a lieutenant-generalcy by the king, but will not take any active part in military matters. A second scientific scion of the Wittelsbach family, Prince Louis Ferdinand, recently married to a sister of the King of Spain, has in press a monograph of comparative anatomy on the human and animal tongue, with upwards of a hundred and five illustrations. He made the investigation for his work partly in the anatomical institute of Prof. Rüdinger, partly in his own laboratory at Nymphenburg Castle.

The Philadelphia County Medical Society having refused to admit female physicians to membership, a society has been formed, under the name of the Philadelphia Clinical Society, which will give to the female practitioners of this county the opportunities of membership in an active organization. A meeting was held on Friday, January 25th, at the Hall of the College of Physicians. Officers were elected, and the work of organization was completed.

The International Otological Congress will be held at Basle, September 1, 2, 3, and 4, 1884. The titles of communications intended to be made to the congress should be made known to Dr. Burckhardt-Mérion, of Basle, before the 15th of May.

Bermingham & Co., medical publishers, of 28 Union Square, who made an assignment on the 19th ult., have resumed business, the temporary embarrassment which caused the assignment having been removed, and the assignee having reassigned to said firm. The February number of the *Æsculapian* has not yet appeared.

Pasteur.—Lady Claude Hamilton, with the assistance of Prof. Tyndall, is translating the life of the French scientist, Pasteur.

Medical Testimonials for Sale.—The London *Lancet* mentions an occurrence which goes to show that the British profession is not altogether wanting in certain elements, the existence of which in the profession of this country are doing much to scandalize it. The occurrence referred to is the offer from a medical man to supply, for a pecuniary consideration, testimonials in laudation of the goods of a certain manufacturer.

Hospital Chaplains in Paris.—The *Lancet* states that the abolition of chaplaincies at the Paris hospitals has excited the indignation of the archbishop of the city, who advises the faithful not to send the sick to the hospitals, but to organize a system whereby they may be treated at home.

The Senate of the United States has recently voted to recompense Surgeon E. P. Vollum, of the army, for the loss of his personal effects sustained by shipwreck while in the line of duty in the year 1856. The amount awarded is $700.

Died, suddenly, March 12, of "neuralgia of the heart," (?) Dr. Lunsford P. Yandell, of Louisville, Ky.

The Senate Committee on Commerce is reported to have acted favorably on an amendment to the shipping bill, providing for the abolition of the present system of supporting the marine hospitals by a tax on sailors, and throwing the expense directly on the Government.

THE Meharry Medical Department of the Central Tennessee College, in Nashville, has just graduated eight colored physicians.

ÆSCULAPIANS.—During some excavations at Epidaurum, in the Morea, among the ruins of a celebrated temple to Esculapius, five statues were found. One was a Roman attired in the chlamys, another a Satyr, another a Hecate pondering over spells and expiations, and two others were of goddesses not yet identified. Thirty inscribed tablets were also found.

THE Anchorage Insane Asylum of Kentucky is not conducted on precisely the same principles which distinguish the treatment of the insane at Gheel. It seems from investigation that a frequent method of quieting an excited patient was to throw him down, and then for several attendants to jump upon him. Another who did not want to retire to his cell was persuaded by a strap around his head, by means of which he was dragged along the floor to his destination. Tying patients with their hands under their legs, and especially ducking them, seemed to be a common form of moral suasion. Officers and keepers of the institution, including the assistant physician, solaced themselves after the arduous labors involved in these forms of treatment by getting drunk and playing cards for money. Where the alienist who has charge of the asylum was whilst all this was going on we do not know, but we hope to have the pleasure of recording that his address will not continue to be Anchorage. It is a great pity that there are no laws to properly punish such men, the penitentiary would be inadequate.—*St. Louis Weekly Medical Review.*

PROF. JOHN C. DALTON has been elected President of the College of Physicians and Surgeons, New York.

WILLIAM MARION SIMS, younger son of the late J. Marion, M.D., and Eliza Theresa Sims, died on Friday, February 29th, after a lingering illness.

"BURKING."—A horrible story comes from Cincinnati, which, though authenticated beyond doubt, is difficult of realization, making the crime not a tale of the past, but a terrible reality of the present. Two negro "resurrectionists," after making arrangements with the demonstrator of anatomy of the Ohio Medical College for the delivery of the "subjects," deliberately murdered a family consisting of three persons, and delivered the bodies at the college according to contract. [It is foolish to say this of the demonstrator.—ED.]

THE trustees of the Presbyterian Hospital in Philadelphia have finally refused to accept the $2,500 sent to them by the managers of the recent charity ball as the hospital's share of the proceeds of the ball. "It is our conviction," they say in their letter declining the gift, "that it would be inconsistent in us to accept means for the support of the work which the Church has given us to do, in its name, and under its direction, which the Church itself could not accept—which you would neither ask nor expect the Church to accept." At the same time they thank the donors for their offer, and express the hope that their motives in declining and the convictions that have constrained them will be so regarded that it shall not be thought that they are uncharitable or unfriendly in their action.

THE INTERNATIONAL MEDICAL CONGRESS.—The time of the meeting of the British Medical Association at Belfast has been fixed so as not to interfere with the International Medical Congress, which is to begin at Copenhagen on August 10th.

Sea Air for Nursing Mothers.—A movement is on foot to establish, somewhere within a short distance of New York, a sea-side home exclusively for nursing mothers and their infants. The need for such an institution is made apparent by an examination of the mortality statistics in the office of the Board of Health. Of the 38,624 deaths occurring in New York during 1881, 9,691 were children under 1 year of age; in 1882, out of 37,924 deaths, 9,867 were children under 1 year, and in 1883, in 34,011 deaths, 8,677 were of children of the same tender age. The greatest mortality among children is in the summer, as the following statistics show: In July, 1881, out of 4,296 deaths, 1,798 were children under 1 year; while in January of the same year in 3,148 deaths only 641 were infants; out of 4,498 deaths in July, 1882, 2,032 were infants. During the month of July the deaths of children under 1 year of age constituted nearly one-half of the total mortality.

These deaths occur, in the main, in the tenement districts, and are due largely to the unhealthful condition of the houses. It is believed by competent authorities, that much suffering and sickness might be averted and the death-rate among infants materially lessened if they and their mothers could be given a month each year at the sea-side. Such a house as it is hoped may be secured would accommodate at small expense a large number of mothers and their infants. A meeting of ladies interested in the subject has been held, and a thorough discussion of the project had.

EDITORIALS.

Physicians and Penitentiaries.—While this subject has no reference to the mortar and pestle, or to the bistoury, the stethoscope, or even the speculum, it is still one which, in these days of professional responsibility and supervision, should command the careful attention of every physician. It is true that few physicians become medical attendants of penitentiaries, but very many are consulted by the people and their representatives in regard to the various subjects which are inseparable from penitentiary administration. Shall the medical man say that he knows nothing of subjects which are a part, or are supposed to be a part, of his medical education, or shall he be prepared to give aid and professional information when he is requested to do so? There can be but one answer.

Of course, there can be no difference of opinion as to those questions which concern the mere bodily health of the convicts. These unfortunates must have a sufficient supply of clean, warm clothing: clean warm beds. The night cells must be clean and well ventilated, and each patient have not less than 800 cubic feet of pure air. The night-buckets, used for receiving the fluid, and possibly the fæcal discharges of the convicts, should be well covered and absolutely clean; or, if possible, the convicts should have night access to properly policed and guarded closets. The bathing facilities should be abundant, and absolute bodily cleanliness be made obligatory. The diet should be scientifically regulated as to quantity and quality, and the supplies should be sound, sufficiently varied and well cooked. There should be no overwork or overstrain, and the hospital should be as complete and efficient as modern science can make it. About such questions there can, among physicians, be no dispute.

There are, however, others in regard to which there will be much difference of opinion, but in relation to which the physician should have very definite and defensible views.

Should the management of the inmates be punitive or reformatory in intent and character? Of course, the ignorant and the foolish hold that a murderer is executed with the view of punishing him; while the intelligence of humanity and the philosophy of the law require that the death penalty should be exacted, only for the safety and good of the community and the State. Is the truth in regard to the direst penalty (death) equally the truth in regard to the lesser penalties? Should the management of the convict be such as to punish him, or such as is best for the community, the man, and the State? Should it be punitive or reformatory?

It may safely be said that incarceration and compulsory labor are sufficiently punitory, and if this be so, should not the management of each inmate be such as to make him a better man, a safe member of society, and an advantage rather than a curse to the State, at the end of his term? More than this, should he not be taught "a trade," and not be made simply a unit in any process of manufacture: and so be as helpless, when liberated, to earn a livelihood, by a trade, as he was when first incarcerated? In other words, should not the penitentiary service be to the convict polytechnic, rather than punitive in character? More than this, should the unfortunate culprit not receive mental and moral training, through the agency of books, papers, and the varied forces appertaining to a Christian civilization?

Should not all degrading influences be avoided? Should his zebra-like suit, his striped clothing, as often as looked at, degrade and injure him in his own esteem, or should he be allowed to feel that, even if fallen, the State has not robbed him of all the attributes of manhood, and that, if he do his part, he may yet be a man again?

It is of course understood that the striped suit is used as a precautionary measure; that the convict, if possibly escaping beyond the walls of the penitentiary, may be identified as a convict, and be the more easily captured; but, by the same course of reasoning, he might have placed upon him (as is done in some institutions) the ball and chain. This providing for some possible future contingency, by wrong action in the present, is manifestly censurable. It is kindred in its reasoning to that of the lame military officer, who commenced retreating the evening before the day of battle, because, as he said, "his command might be defeated, and if so there would be one less captured."

Unquestionably every action degrading in its results should be avoided in all efforts at reformation. Such gross errors belong to the legislation of the past. They are kindred to the degrading use of the public stocks and pillory, in which the culprit was formerly jeered at, ridiculed, derided, and even pelted, as was often the case, with rotten eggs and the decomposing remains of dead animals. The day for combining degradation with punishment has passed away. It is contrary to the genius and philosophy of contemporaneous legislation. This seeks not only the good and safety of the State in dealing with its prisoners, but also that equally high and lofty object, the reformation of the charac-

ter of the guilty: the restoring of them, after the allotted period of punishment, to society: not as consumers but as producers: not as vile and dangerous creatures but as useful and reliable citizens. Degradation of convicts only forces them into the deeper sinks of vice and iniquity, leading them often to the murderer's act and the murderer's penalty: while reformatory legislation leads to reformation of character, to the saving of the individual, and to the welfare of the State.

What are the well-known psychological results of punitive administration upon convicts? Are they not always such as to embitter them, to render them worse, to fill them with a spirit of bitter revenge to be gratified when released from captivity? Keeping clearly in view the object of penitentiary incarceration, viz., the safety of the community and the good of the State, are not these best secured by protective, and even a polytechnic, administration, rather than by one punitive in character and execution?

Are these psychological problems fit themes for the physician in his highest relations to communities, or are they to be relegated to brutal contractors, whose solution of them is to be expressed in dollars and cents, and not in the welfare of the State and of humanity?

In a recent examination of the physician of a large penitentiary, by a committee (of the Legislature), as to the psychological effects of the administration upon the convicts, he seemed to know nothing more than what is the proper dose of quinine, and the therapeutic effects of castor oil. The occasion for doing something for his fellow-men, for the State, for society and for his profession, was barren and fruitless, because he had up to that period never reflected upon the subject, but supposed that his highest function was to make a pill or to administer an enema.

Trichinæ.—Washington.—Commissioner Loring has laid before the President the report of the commission appointed to examine the swine industry of the United States, and into the allegations relative to the healthfulness of pork products. The inquiry embraces the origin and history of hogs which make up the market supply, their condition on farms, the methods of management, transporting, treatment at stockyards, manner of slaughtering, curing, packing, handling, and shipping of pork products, the effect and extent of hog disease, necessary preventive measures, and effect of the curing process on trichinæ. The methods of breeding and rearing and fattening of swine are elaborately set forth, and the report is emphatic that there is no condition surrounding the industry which tends to propagate disease or render pork unhealthful. It finds the number of hogs raised annually to be about 30,000,000, making a total of cured meats, lard, and other products of 4,725,000,000 pounds. The most careful, thorough, and minute inquiry seems to have been made in the handling of pork from the farm to port of debarkation. Statistics of the Department of Agriculture are quoted, showing many interesting facts relative to this branch of the subject, such as the world's supply of swine, comparative values, domestic distribution, foreign trade, values of corn crop, &c.

From returns from railroad and transportation companies, slaughter-houses,

packers, and shippers, confirmed by those from Boards of Health, humane societies, and experts employed by the commission, it appears that the utmost care is preserved throughout; that dead hogs are never transported except to offal-rendering establishments; that diseased hogs are refused transportation; that humane laws and sanitary regulations exist at all stockyards, enforced by local inspectors under penalty of fines, etc.; that rigid scrutiny is enjoined at all slaughter-houses; that methods of slaughter and packing, qualities of material used, inspection, etc., are regulated by rules of the Chambers of Commerce and of Trade, and constant care is exercised to see that no unhealthful means are employed in any branch. Of the extent of diseases, preventive measures, and the effect of salt on trichinæ, the report is full of valuable and interesting information. Even the extremely small percentage of trichinosis, as shown by the investigations of the Agricultural Department, seems to be largely removed by processes of curing. The degree of heat necessary to render pork harmless is treated of at length. The commission deny that the hog cholera is dangerous to human health, and assert the impossibility of curing such meat even so as to deceive the most superficial examiner. The report points out the practicability of a microscopic inspection, if such is necessary, to remove existing restrictions. The commission states that their examination proves American pork fully equal, perhaps superior, to that of France or Germany. No general disease exists, and the occasional presence of trichinæ is comparatively unimportant.

The report is signed by the Hon. George B. Loring, chairman of the board; Mr. E. W. Blatchford, of Chicago; Professor Chandler, of New York; Dr. D. E. Salmon, of the Department of Agriculture, and Mr. F. D. Curtis, of New York, and in conclusion it says: "While we believe that no legitimate ground exists for the restrictions imposed in some foreign countries on the importation of American pork, we are satisfied that microscopic inspection of all pork for export can be secured at the packing-houses if such inspection should be demanded." The report makes about 125 printed pages.

Sir Joseph Lister has been handsomely entertained by the Manchester University Club. To the speech of Mr. Hardie, Mr. Lister replied fully, and in his speech made use of this language—this very extraordinary language. He said:

"Reference had been made to the honor which had recently been conferred upon him; he confessed it was an honor he for one never coveted. To be permitted, if it might be so, to do something yet in the way of making more clear and also more simple the treatment of surgical wounds had been to him something incomparably more valuable than any titular distinction; and when he remembered that some of the grandest men in the history of British surgery, men in comparison with whom he felt like a dwarf in the presence of giants—men like Cheselden, Hunter, Abernethy, and Syme—had gone to their graves with no other honor than the imperishable renown that attached to their achievements—he said with these considerations he would have been well pleased to have remained untitled. Nevertheless, when this honor was offered

to him by the Prime Minister, on behalf of Her Majesty, in recognition, as Mr. Gladstone expressed it, of the 'distinguished services you have rendered to your profession, and to those interests of suffering humanity with which it is inseparably connected '—coming in this way, and promising to be, so to speak, an expression of the approval of Her Majesty and her advisers of those principles which he had for so many years striven to maintain—under these circumstances he felt it was not for him to refuse the honor which was offered to him."

If this be genuine, it is certainly very beautiful as well as very remarkable. In a country where titular distinction is regarded as the prize above all prizes, by the Church and Bar, by literary men, by the Army and Navy, and by all of the people, the representative of such language as that just quoted certainly exposes himself to the sharpest suspicion.

As to his receiving honors which his superiors had not received, this certainly is a beggarly argument indeed. If men were to refuse, or repudiate, or undervalue honors, because their superiors had not received them, who could accept distinctions and rewards? That Abernethy and Hunter and Cheselden did not receive such honor, only shows how rapidly medical science and its representatives have progressed in the appreciation of crowns and governments; it certainly does not furnish argument for refusing honors, or for undervaluing them. If Mr. Lister is earnest and sincere, he is even more remarkable morally than he is professionally; and professionally he is a giant, indeed.

Lip-Reading by Deaf-Mutes.—A number of instructors held a conference February 27th, in this city, at the Institution for the Improved Instruction of Deaf-Mutes, in Lexington avenue, to make arrangements for a convention of American deaf-mute instructors, who teach articulation and lip-reading. The convention will be held in this city sometime during the coming summer, and will be the first of its kind. There are at present in the United States 58 deaf-mute schools maintained by the different States. The aggregate number of pupils is over 7,000. Only about 10 per cent. of these are taught how to use the voice. The balance depend upon science and lip-reading for their communication with the world. Although the use of the voice is but little taught in this country, that method is used exclusively in the European schools. Its superiority over the sign method was affirmed by the International Congress for the Amelioration of the Condition of Deaf-Mutes, which met in Milan, Italy, in August, 1880, and the impetus given to the method by this indorsement is beginning to be felt in this country. There are over 100 teachers of this method in this country now, and a determined effort will be made to extend its influence.

At the conference mentioned there were present Principal D. Greenberger, of the Lexington avenue institution; Principals of institutions at Northhampton, Mass., Boston, Portland, and Philadelphia, and Prof. A. Graham Bell, the inventor of the telephone. Prof. Bell's interest in the education of deaf-mutes arises from the fact that his wife is deaf and has become an adept at lip-reading. Prof. Bell also introduced into this country a universal alphabet, known as "visible speech," of which his father was the inventor.

It is a singular coincidence that the wife of Prof. Morse, the inventor of the telegraph, was also a deaf-mute, and was taught lip-reading, in which she became very expert, by her husband.

THE FUNERAL OF DR. AMBLER.—WASHINGTON, Feb. 25.—The body of the late Past Assistant-Surgeon James M. Ambler, United States Navy, was conveyed February 23d to Virginia from New York, under the escort of Chief Engineer Melville, Surgeon Gravatt, Lieuts. Jacques, Danenhower, and Scheutze, and Past Assistant-Surgeons Harmon, Gaines, Rixey, and McClurg, and accompanied by his brother, Edward Ambler. The party was joined at Baltimore by representatives of the Medico-Chirurgical Faculty of Maryland, University of Maryland, and Clinical Society of Baltimore. The body arrived in Washington, and was met at the station by Medical Directors Browne and Gihon, Surgeons Van Reypen and White, and Past Assistant-Surgeons Street, Green, and Nash, and transferred to the special train which had been tendered by Mr. John S. Barbour, President of the Virginia Midland Railroad. The funeral train was received with demonstrations of respect along the route, and reached Markham at 2 P.M., where the body was placed in a hearse covered with a union-jack and the floral wreaths which had been accumulating all the way from Siberia. The pall-bearers were Medical Directors J. M. Brown and Albert L. Gihon, Surgeon William K. Van Reypen, Acting Chief Bureau Medicine and Surgery; Surgeon Charles H. White, and Chief Engineer George W. Melville, and Lieut. John W. Danenhower, Ambler's surviving comrades of the Jeannette; Lieut. William H. Scheutze, who brought his body from Siberia, and Lieut. William H. Jacques, representing the Secretary of the Navy. The procession was very long, the carriages being followed by several hundred mounted residents of Fauquier County, Va., many of them Dr. Ambler's former comrades in the Confederate cavalry. The ceremony took place at Leeds Episcopal Church, about 4 P.M., the services being performed by the Rev. H. B. Lee, a classmate of Dr. Ambler at Washington and Lee University. Dr. Ambler's sisters and brothers received the body, his mother being too old and feeble to be present.

TESTIMONIALS.—The Committee of the St. Louis Medical Society reports on this subject at length, but sums up the whole matter as follows: "It is evident that giving certificates favorable to proprietary medicines or articles is in contravention of the requirements of *the letter* of the Code, and that they attest the efficacy of secret medicines, and is also equivalent to 'resorting to public advertisement.' *The spirit* is violated, in that it secures 'a special advantage, inconsistent with the equality of rights and duties pertaining to the profession.'

"Your Committee therefore recommend that the giving of certificates, as mentioned, be condemned and prohibited, and that the members of this society, who have such certificates now in publication, be required to immediately withdraw them."

The fact is, when physicians give testimonials in behalf of S.S. (Swift's specific), "warranted not to contain any mercury or iodide of potassium," "Buchu-paiba," "Mother Swan's worm syrup," "Rough on coughs," etc., the evil has reached a condition of public disgrace, and the profession ought to be ashamed of such

of its members. More than this, the giving of testimonials has become so disgraceful and disreputable, that manufacturers, *even of the worst compounds*, injure their wares and themselves by publishing such certificates. There are very many medical journals, claiming to be respectable, which publish, *for payment*, such certificates in their editorial columns.

The Texas State Medical Association will meet at Belton, Texas, April 22d, 1884, and continue for four days. Dr. A. P. Brown, the distinguished president of the association, says: "The Gulf, Colorado & Santa Fe, and the Missouri Pacific Railways both run to Belton, and the Gould system of railroads and the St. Louis & Texas Railroad connect with these first named, making it easy to get to Belton."

The Committee of Arrangements say: "Ample arrangements will be made for all;" and they say they "will see that every physician is provided with a comfortable home, free of cost. The wives and daughters of all attending physicians are most respectfully and cordially invited to be present." "A committee will be present at each depot to meet and receive the physicians and their families and escort them to places provided."

All those expecting to attend will please notify Dr. Taylor Hudson, Chairman of Committee of Arrangements, who will give any other information desired relative to the meeting.

Nothing could be more hospitable and excellent, and it is hoped that the association will enjoy a happy and prosperous meeting.

The Committee of Arrangements will please accept the thanks of the editor of this Journal for the invitation to deliver the address requested on this occasion, but much as such a meeting with old friends would give great pleasure, it is, for this year at least, utterly impracticable.

A New View of Exercise.—Walking a Great Sin.—A prominent minister has just preached a sermon against dancing, in which he conclusively shows that dancing is sinful, because no man when dying sends for a dancing master to console him; because no man would wish to have inscribed on his tombstone: "He danced well;" and because dancing stimulates the desire for the intoxicating cup. Powerful as these arguments certainly are, they are equally powerful when used to show the sinfulness of walking.

What man on his death-bed ever sent for a pedestrian to console him? What man would care to have inscribed on his tombstone: "He was an eminent walker," and who will venture to deny that the exertion of walking makes a man thirsty and thus tempts him to drink? Moreover, if one looks at the men who have become eminent as great walkers, it is found that they are usually ignorant persons, whose highest ambition it is to keep a rum-shop and drink themselves to death. Why are the pulpits silent in the presence of a sin so terrible and widespread as that of walking? Where there is one person who is wicked enough to dance, there are ten who are so depraved as to be even habitual walkers.

Walking is evidently a great sin, for the preacher has said so. There is but one resource left to all who would lead correct lives, and that is to ride. Indeed,

it is this fact which explains the great and admitted morality of doctors. They do their work by daily riding.

ALUMNI ASSOCIATIONS.—This is the season for the annual meetings of the alumni associations. So far the height of their ambition and the extent of their achievements is to eat a dinner! What the colleges have done for the brains of these men is never once seen. The stomach is the only organ whose strength is invoked, and the only one called upon for duty.

What possible credit can such meetings reflect upon the colleges of which their alumni are members? One would suppose, to read the accounts of the entertainments, that they are the anniversary celebrations of the city's cooks. The speeches, too, are made up of gasconade and braggadocio. At one of the last of these entertainments, Mr. Chauncey M. Depew, a distinguished lawyer of New York, said that: "In a national sense, there were only two colleges whose physical and intellectual contests arrest the attention and arouse the enthusiasm of the American people." One would be amazed at such audacity, until he learns that the speaker is a Yale graduate, and was addressing an audience of Harvard alumni. The speech, too, was post-prandial, and these several reasons go far to account for the foolish assertion of the speaker. What the American people admire is a love of the alma mater by every graduate, but when anniversary meetings are held by the alumni of colleges, every one expects and looks for the triumphs of brains, and not of stomachs.

AN EVIL TO BE REFORMED.—It is usually supposed that all articles or criticisms in the review department of a medieal journal are straightforward, honest judgments of the work reviewed; but such is not the case, and the fact that such is not the case constitutes an evil which cannot, for medical journals, be too speedily reformed.

Many of the literary magazines, "Harper," "St. Nicholas," "Appleton's," "The Century," "The North American Review," and many others, have (as a rule, and with few exceptions) adopted the pernicious, if not the unfair, course of having prepared each "a notice" of the coming, or current number. These notices are printed on postal cards, and sent to such periodicals as will "exchange" and give these monthly "notices," as prepared by the owners of these periodicals! To the shame of the press be it spoken, these offers are accepted, *and the articles appearing in the review departments of most journals were prepared by the owners of the magazines reviewed.* This is simply and clearly an injustice to subscribers.

This journal refuses all such "exchanges," and always will do so, on such conditions.

ARTIFICIAL EGGS.—The London (England) *Farmer* publishes the following statement: "The manufacture of artificial eggs across the Atlantic is largely increasing; and one establishment alone turns out upwards of one thousand every hour. The yolks are formed of a paste composed of corn-flour, starch, and other materials. The whites are made of albumen, and are chemically identical with the whites of real eggs. The inner skin is a film of gelatine, and the shell is of plaster of Paris, and is somewhat thicker than the original. The

yolk is first rolled into a ball, and frozen hard; then it is enclosed in the albumen, and submitted to a rapid rotatory motion, which makes it a proper ovoid form, and again it is frozen. It is then dipped into the gelatine, and after that into the plaster, which, while drying rapidly, retains the form after the contents have melted. It is said that, in point of taste, the eggs cannot be distinguished from the real article; while they will keep good for years, and are not so easily broken. They can be flavored to resemble ducks' eggs; but up to the present it is stated that even the most assiduous hen had failed to produce chicks from these compounds."

This story was originally published as a hoax in the *Detroit Free Press*, and prepared also as a satire on the purity of American farm products. The English are always too much in earnest to suspect a joke.—E. S. G.

THE Hospital Saturday and Sunday collections, in this city, for 1883 amounted to $42,803.69. In 1882 they amounted to $30,681.52.

The churches, in 1883, gave	$27,040.50
Trade associations " "	6,691.97
Trade collections " "	1,412.75
Exchanges " "	3,022.95
Benevolent orders " "	495.50
Miscellaneous " "	4,140.02
Total	$42,803.69

Of this amount ($42,803.69), $27,000 have been given to the Hospitals. The expenses have been about $3,000, and about $12,800 have been invested for permanent beds. A noble work, nobly done.

Of the $27,000 given by the churches, the Episcopal churches gave about $13,000, nearly one-half; St. Bartholomew's gave $2,533, a noble offering. Money could not possibly be better bestowed.

SCHOLARSHIPS AND THE VIRGINIA LEGISLATURE.—The Virginia Legislature proposes to pass a bill giving annually to one of the medical colleges of the State a certain sum of money ($7,500), and to have, as a return, 136 medical students given a course of lectures—one student for each legislator!

It is difficult to believe that such a proposition could receive even respectful consideration, and that it was not received with shouts of laughter; but it is to be duly considered.

Next, the same amount should be voted to a law college; then to a theological college; to one of engineering and mining; to a shoemaking establishment; and to a tailor's shop. It is marvelous, indeed, that any respectable legislative body could so cover itself with ridicule, absurdity and folly.

HOW TO DISCONTINUE A JOURNAL.—The following from an exchange fully and freely expresses right views on this subject: "You have undoubted right to stop a paper when you feel disposed, *upon the payment of all arrearages.* Do not hesitate to do so on account of tenderness for the editor. When you discontinue a paper, do so manfully; don't throw it back to the postmaster and say: 'I don't

want it any longer!' and have 'refused' written on the margin, and have the paper returned to the editor. No gentleman ever stopped his paper in that way, no matter if his head is covered with gray hairs that should be honorable. If you do not longer wish to receive a paper, write a note to the editor, like a man, saying so; and be sure that arrearages are all paid. This advice is according to law and equity." This is published as a guide to the reader when he wishes to discontinue other journals; of course no one ever discontinues this JOURNAL.

THE "MEDICAL NEWS," QUININE PILLS, AND THE HIGHER WALKS OF JOURNALISM.—GAILLARD'S MEDICAL JOURNAL for September administers a well-deserved rebuke to the *Medical News* (published in this city), for its discourteous language towards its contemporaries, and its unwarranted aspersion of their motives, in a recent editorial contained in that periodical, and shows that the charges of weakness, cowardice, and venality have been thus far proven only against the management of the *Medical News* itself. We say with Hamlet:

"Let it work;
For 'tis the sport, to have the engineer
Hoist with his own petard."

—*Philadelphia Medical Times.*

SUCCESS OF THE OLD CODE NEW YORK DOCTORS.—The second meeting of the new County Medical Society was held in the lecture-room of the College of Physicians and Surgeons, February 18th. Dr. William Detmold, the President, made a few congratulatory remarks, and Dr. Gouley reported that the membership of the new society was steadily increasing. He said it was expected that the old code doctors would organize in each county in the State. A paper on typhoid fever was read by Dr. Edward G. Janeway, and discussed at some length by Dr. Austin Flint and others. One of the speakers declared that nearly all of the cases of typhoid fever in this city last year were found in the parts of the city near the rivers. It was seldom, he said, that sickness from typhoid fever occurred within the territory lying between Lexington and Sixth avenues.

THE PROPHYLAXIS OF PARTURITION.—If the views of Dr. T. G. Thomas on this subject are correct, that she who is about to bring forth must be treated as one about to go through a capital operation, and that carpets, curtains, etc., are to be removed, and every person and thing sprinkled with boric or carbolic acid, including (after birth) even the vagina, it is safe to say that there will be fewer births in New York than ever. However sincere he may be and is, however learned, however experienced and judicious, he is an enthusiast on this subject, and, for once, will fail utterly to carry with him, in conviction and practice, the wise, conservative and independent physicians of this country.

NOT HIGHTONED.—If there is any one thing in connection with medical journalism more reprehensible, or more derogatory to the dignity of the calling, or more unjust to subscribers, than any other, except personalities, it is the practice much indulged in of late by many of the otherwise unexceptional

exchanges which come to our desk, of sandwiching in between the items of news, editorials, and clippings, of fulsome, often disgusting notices of arrant quack preparations, patent medicines, proprietary articles, and notices of what Prof. Nobody has said of *Potatorina*, or *Blisterine*, or *Iodid*, or Dr. Starter's Pills.—*Texas Courier-Record.*

Humor.—Dr. S. Baruch, in a recent paper on the subject of prophylaxis in normal labor, says: "Dr. Garrigues, like all originators of an instrument or appliance, attributes his success, in puerperal practice, in a great measure to his antiseptic pad. He claims that the latter obviates the necessity for preventive injections, which 'become superfluous, and thus one great source of infection is avoided.' I would not say ought in opposition to any measure or appliance which will keep the dangerous nurse and syringe away from the genital canal, and if for no other reason than this most vital one I would advocate the adoption of Dr. Garrigues' antiseptic pad as a most useful and promising advance in prophylaxis. It keeps the nurse and syringe away !"

The Red Star Line Atlantic Steamship Co., plying between New York and Antwerp and Philadelphia and Antwerp, have ordered their surgeons to mess at "the second-class table," and they are treated as "second-class passengers." It is easy to say, as some journals do, "they must resign." They will, of course, do so as soon as they can secure bread-and-butter elsewhere, but, in the meanwhile, they eat the bread of humiliation. Physicians, in the aggregate, send hundreds of patients to Europe by this line. It is well for them to remember it and send their patients by other vessels.

The largest circulation of any medical journal is claimed by the *British Medical Journal*, with something over 12,000; the *New York Medical Record* claims the same, with a circulation somewhat over 10,000; the *Therapeutic Gazette* has the same claim, with a circulation of over 12,000, and so on. The *Medical Brief*, of St. Louis, has, as is said by its editor, 25,000. Whether that journal is to be regarded as a medical journal or not, is the question. The journals indicated above evidently consider that the *Brief* is not a medical publication. If it is, their claim is without foundation.

The Sims Memorial Fund.—The Kings County (N. Y.) Medical Society adopted a resolution at its February meeting, appointing a committee, consisting of Drs. Alex. J. C. Skene, Samuel G. Armor, and Paul H. Kretzschmar, to collect from members for the Sims Memorial Fund. The circular contains the original appeal of the General Committee, and encloses a suitable blank for the name of the subscriber. This is an excellent idea, and other county societies would do well to imitate this laudable example. There is no doubt that the Kings County Society will show a proper record.

Doctors' and Lawyers' Fees.—The Government has paid for one unsuccessful trial of the "Star route thieves" $144,146.92; of this Mr. Bliss, of New York, received for his portion of the unsuccessful work $57,732.15, an average

of $150 a day for fees, and $10 a day for expenses. And yet the small charge of Mr. Garfield's doctors was scaled far below $100 a day, *including expenses*, provided they would sign a receipt in full. The people and the press applauded. Even the medical press, in part, and medical men, thought it all right thus to defraud and degrade the medical profession. A record of shame.

Dr. John Fouche Fauntleroy, of Leesburg, Va., died February 4th, 1884; an accomplished physician; an independent and true man; a faithful friend. It is but a few weeks since that the editor of this Journal received from him, in one of his frequent letters, an account of his case; the writer of the letter giving, even then, a fatal prognosis. Alas! how soon have his previsions been realized and his opinions verified. Virginia loses an able and good physician, one whose family and friends have the warmest sympathy in their affliction. Dr. Fauntleroy had been a subscriber to this Journal since January, 1866.

New York City's Health Department, coroners and institutions of "charities and correction" cost about three and a half million dollars per year—say three dollars apiece for each of its inhabitants, and when it is remembered that a lare proportion of its million and a quarter inhabitants are idlers, paupers, cripples, and criminals who are unproductive, and lean upon the industrious portion of the community, one may fairly estimate that the workers each pay about ten dollars a year for the support of the drones and incapables.

The Texas State Medical Association.—It is respectfully asked that a complete report of the proceedings of this association (which meets at Belton, April 22d) will be sent to this Journal for publication. Members reading papers will please send their manuscripts to this Journal, in which such papers, will be published without delay. This arrangement does not debar a member from the privilege of having his paper published in the "Transactions." Custom has sanctioned this privilege, and societies no longer object to it.

Harvard all Right.—Many have been afraid that Harvard was degenerating, but, from a notice in the *New York Times* of February 21, it is evident that its alumni are fully as able as the alumni of any other institution. The *Times* says that the Harvard Club will eat its eighteenth annual dinner at Delmonico's "to-morrow evening." It has already eaten seventeen annual dinners. And yet there are some who say that alumni meetings are useless. The amount of good they do to mankind is really beyond estimate!

The "Texas Courier-Record of Medicine."—It is a genuine pleasure to see this excellent journal doing so well. May it ever be so, and may the editors, Drs. F. E. Daniel and W. B. Brooks, so well fitted for their work, reap an abundant and prompt success.

The senior editor, Dr. F. E. Daniel, has the sincerest sympathy of his many friends in the recent loss of his wife, and among all no one sympathizes with him more sincerely than does the writer of these few lines.

The Journal Cover.—Several kind friends have written in regard to the Journal cover, complaining that it is received torn and injured. New and

heavier cover paper has been made for the JOURNAL, and the wrappers in future will be longer and heavier. This will prevent any further injury.

The color was chosen by an old friend, who was very kind to the writer in his illness, and it is preserved as a memento.

DRS. BLUTHARDT AND KROST, of Chicago, Ill., were so badly frightened while making an autopsy, by a noisy mob, that one ran away and escaped, while the other tried to run away but was caught and beaten. These would have been valuable regimental officers! If county officers are afraid to do their legal duty they ought to be displaced. These left their instruments behind and lost them. Ought not the profession to subscribe and give them another set?

THE *Atlanta Medical Register* (Ga.), recently published by Mr. H. H. Dickson, and edited by Dr. J. P. Logan, has been sold to James P. Harrison & Co., and will be published hereafter by them as the *Atlanta Medical and Surgical Journal*, its old name. It will be edited by Drs. W. F. Westmoreland, H. V. M. Miller, and James A. Gray. It is hoped that this old journal will do well.

THE Patent Medicine Almanacs for this year imitate many of the American and Canadian medical journals, by *interleaving their text pages with advertisements*. Or it may be that these medical journals are imitating the device of the patent medicine men for making a few more pennies. Who are the pioneers in this laudable business?

ST. LOUIS, MISSOURI, MEDICAL COLLEGE.—On page 228 of the February number, it was stated that this college was "in a bad way." The item was taken from a newspaper, and is incorrect. The error is, of course, regretted, and is promptly corrected. The institution alluded to by the newspaper is evidently the St. Louis College of Physicians and Surgeons.

THE SEX OF MEDICAL SOCIETIES (composed of men) is, it seems, female in character. The *Journal of the American Medical Association* discourses as follows: "Was the New York State Medical Society 'extruded from membership' in the American Medical Association, or did *she take herself out by her own act?*" She was very naughty.

NOTICE.—The whole of the historical debate on Puerperal Fever, in the New York Academy of Medicine, with the original papers of Drs. T. Gaillard Thomas and Fordyce Barker, will appear in the May number, giving to that number a a value which all will appreciate.—E. S. G.

"THE PREMATURE BROUGHAM" is the suggestive expression by which a correspondent of an English journal refers to a common burden which weighs down the young practitioner.

PHYSIOGNOMISTS.—Pickpockets and beggars are the best practical physiognomists, without having read of Lavater, who it is notorious mistook (says Lacon) a philosopher for a highwayman.

HOW IS DEATH POSSIBLE.—An Etonian says: "If we cannot die as long as we live, and cannot die when we are dead, how is death possible?"

PER OS.—The *Medical Age* furnishes, in a late number, several formulas for giving mercury "*per os.*" This is something new. How is it done?

GAILLARD'S MEDICAL JOURNAL

AND

(*THE AMERICAN MEDICAL WEEKLY.*)

(CONSOLIDATED.)

Scientia et Veritas Sine Timore.

VOL. XXXVII. NEW YORK, MAY, 1884. No. 5.

ORIGINAL ARTICLES.

ARTICLE I.—MECHANICAL PRINCIPLE IN THE CIRCULATION IN THE EMBRYO: PLACENTAL SOUFFLE THE ANALOGUE OF RESPIRATION. RESPIRATION IN THE NEW-BORN: THE CHANGE IN MECHANICS WHICH THIS INVOLVES. INCUBATION: THE RELATION THIS SUSTAINS TO THE AIR-CHAMBER IN THE EGG. MODE OF GRAFTING THE OVUM IN THE TISSUES OF THE WOMB.* By W. H. TRIPLETT, M.D., Washington, D. C.

We have seen that respiration and circulation must be treated together, since they form *a connected movement* for pumping the commerce in and through the organism for elaborating structure and evolving force, and that the whole is founded in the power of producing rhythmical changes in pressure, the fluids flowing from high to low pressure in conformity with organic law; that the lungs, intestines and bloodvessels are necessarily allied in respiration in order to make importation and transportation a connected movement between the cell-brood and environment, which the scheme calls for. In other words, that the *pumping action* in respiration *compels* the commerce in the vessels, while the action in the heart, arteries and venous system circulates it through the organism, the action being unified throughout by means of the nervous combinations in the medulla oblongata, in which the respiratory, vaso-motor and voluntary motor centres, are correlated, the one calling for the other, as has been fully set forth in the preceding pages, and that the vital phenomena, anatomical and physiological, appertaining to respiration, circulation absorption, etc., are readily explained and accounted for, giving absolute proof of the correctness of the premises, as before remarked. We now follow this matter a little further, and take up

CIRCULATION IN THE EMBRYO,

a subject which, it must be admitted, is at present veiled in deep obscurity. This is nevertheless susceptible of explanation. The embryo is an *aquatic*

* From a manuscript work being prepared for publication, entitled "Natural Philosophy of the Body; or, the Mechanics in Respiration, Circulation Absorption, Etc.," chapters xvi. and xvii.

animal, since it leads a subaquatic existence, being placed under water (Fig. 1) and deeply buried in the maternal tissues, which would account for the peculiarities that obtain in its circulation approximating it to the stages in development represented in fishes and amphibia.

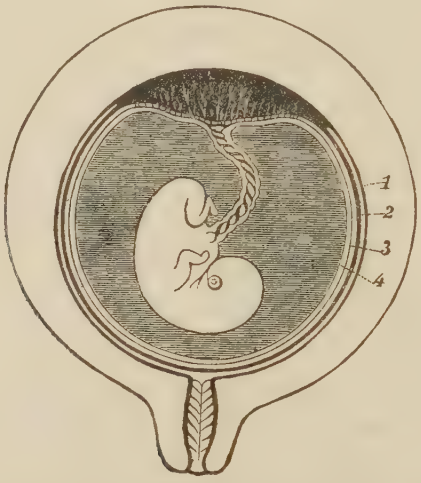


FIG. 1.—GRAVID HUMAN UTERUS AND CONTENTS, showing the relations of the cord, placenta, membranes, etc., about the end of the seventh month. 1, decidua vera; 2, decidua reflexa; 3, chorion; 4, amnion. (After Dalton.)

The physical conditions under which the embryo is evolved determine the special vascular arrangements for effecting circulation, while the transformations which accompany this provide for the radical physical changes which are ushered in at the end of the term, when it becomes an air-breather, the fundamental circumstance underlying it all being *an adjustment with pressure, and the power of effecting rapid rhythmical changes in pressure*, or of producing the universal pumping actions going on in the body. For example, we have seen that the rhythmical expansions and contractions pervading the body in the air-breather, and known as *respiration*, compel oxygen and aliment in the circulatory apparatus for evolving force and producing growth; so, in like manner, a similar necessity exists in the embryo for compelling the nutritive and force-producing elements in its circulation for producing growth and evolving force, which is principally expended in elaborating its structures. But since the embryo feeds in the uterine sinuses from which the commerce is obtained, and into which the waste products are returned, this calls for the differentiation of the special organ known as the placenta, and which answers to the more highly differentiated lungs and intestinal canal which are to substitute it at the end of the intra-uterine term as the relative adjustments with the larger environment, lower pressure, and higher order and amount of work which this involves.* The placental souffle, then, which is distinctly heard through the maternal structures is the analogue of respiration in the air-breather, the relative ratio of the movements to the pulsations in the fœtal heart

* For further particulars, see Part II. of this work, "On the Relation of Gravitation to Development," to be issued shortly.

being also the same, or as 1 to 4 of the latter, whilst the villi are the analogues of the villi is the intestinal canal, the one being submerged in the sinuses, the other in the juices in the intestine. Since the pumping action in respiration is absolutely essential for compelling the commerce in the vessels, it follows that this circumstance should be represented in the embryo, as the maternal blood does not enter the embryo, the latter feeding out of the sinuses simply by means of the villi in the placenta and this pumping action spoken of; for here, as elsewhere in the body, there are no means for increasing circulation but by *rhythmical changes in pressure*. The result must then be the action in the placenta simulating respiration. The relative frequency of this movement to the action taking place in the fœtal heart is as 1 to 4, or the same as in respiration.

Thus, in the case of the placental souffle it is 30 to 35, and in the fœtal heart the pulsations are from 120 to 140 per minute; while, in the case of the air-breather, the pumping action in the trunk or respiration is from 16 to 20, and in the heart from 60 to 80 per minute. Again, this action in the placenta serves not only to pump the fluids in and out of the sinuses, but at the same time it also aspirates the venous blood in the embryo for effecting oxygenation in it the same as obtains in the lungs: the heart and vessels assisting in the one as well as in the other, since it all forms a connected movement. We now see that by reason of the great increase in pressure that obtains in the embryo, the action in the organs for changing pressure is materially assisted, since the fluids flow more readily in consequence. And here comes in the benefit of the amniotic fluid, which not only increases pressure in proportion, but at the same time it serves to transmit the force in the placenta and uterine walls to the embryo for compelling corresponding changes in pressure upon the blood in connection with the special functions.

As illustrating this fact, we see that when the placenta expands for aspirating the fluids in the uterine sinuses, the organ advances into the uterine cavity, it swells out and occupies more room, and, by thus encroaching upon the embryonic area, it produces corresponding increase in pressure upon the liquor amnii and embryo, with low pressure in itself, which fulfils the conditions for increasing circulation from the embryo to the placenta, at the same time, that it should aspirate the fluid in the uterine sinuses. It could not do otherwise in the very nature of things. During contraction in the placenta, the opposite conditions should obtain, since this would determine high pressure in the latter with low pressure in the embryo, the blood in consequence flowing through the umbilical vein with augmented speed, and for the reason that contraction should reduce the volume of the placenta, which would inevitably reduce pressure in the embryo in proportion, the blood flowing from one into the other in conformity with organic law. To this, again, must be added the action in the heart for aspirating the blood in the placenta. The media in which the animal lives obviates the necessity for the extensive arrangements for reducing pressure in the chest, which obtain in the lighter media of the atmosphere, the heart, together with the force in the placenta and umbilical vein, being sufficient for the purpose.

A subaquatic existence calls for but slight reduction in pressure in order to compel movement; accordingly, we have the blood rushing in and out of the heart as a result of the rhythmical expansions and contractions in this organ; while for increasing this action, the vessels are combined in the mechanics by means of the vaso-motor apparatus, and which, undoubtedly, connects with the action in the placenta. The right ventricle is *thicker* and *stronger than the left*, as adjustment for this mechanics, since the diastoles should aspirate the blood in the two cavæ, while the two systoles would produce high pressure in the arterial system for increasing circulation in the capillaries.

By means of this combined action in the placenta, heart and vessels, a rapid circulation is readily effected under the high pressure that obtains in intra-uterine life; but anything which should interfere with this mechanics by reducing pressure, *e. g.*, escape of the amniotic fluid, would promptly destroy life. How, otherwise, account for this circumstance, since the vascular connections are *uninjured?* Moreover, the lividity of the skin, which occurs in these cases, proves conclusively the existence of venous stasis in the systemic capillaries, and insufficiency of the heart's action to carry on circulation in the absence of the normal pressure upon the embryo. The same circumstance occurs to the air-breather when carried to too great an altitude, nothwithstanding the extensive arrangements for changing pressure in the chest, which exist in the latter. This circumstance may be especially noticed in balloonists, and also in persons ascending mountain ranges, respiration and circulation becoming more and more embarrassed as the journey is proceeded with, and venous stasis more and more conspicuous, till the limit of endurance is reached or life itself is terminated, as occurred in the celebrated case at Paris, in which the voyage was made by two balloonists, one losing his life, the other being unconscious when the balloon descended.

THE ACTION IN MEDUSÆ CONTRASTED WITH THE ACTION IN THE PLACENTA.

The action in *medusœ* feeding in the juices in the sea, pumping them in and out of the internal compartments by means of rhythmical expansions and contractions for changing pressure upon them, may be taken to illustrate the mechanical action in the placenta, which feeds in the juices of the womb, pumping them in and out itself from the maternal sinuses. Thus the peduncles (Fig. 2, *a*, *a*, *a*) answer to the tufts while the mantle represents the body of the placenta. But to make the analogy complete, a tubing should project from the convex surface of the latter to represent the umbilical vein and arteries, and which, for obvious reasons, are not present. The analogy is more striking, however, than would appear on the surface, since from the periphery of the stomach a system of radiating canals extends to the edge of the mantle, dividing, subdividing and anastomosing to form a continuous and complicated capillary plexus around the free margin of the mantle, inclusive of the colored lobes, to form the respiratory apparatus. This may be taken to represent the circulation on the distal side of the placenta, and though, for obvious reasons, the force is increased in the embryo, still the mechanical principle is the same for both circulations.

In the mantle, as well as in the placenta, unstriped muscles are present for increasing the energy of the rhythmical expansions and contractions. But muscles are not essential to this action, a notable example of which is furnished in the heart itself, which expands and contracts regularly and rhythmically before a muscle or nerve is developed in the protoplasmic and undifferentiated walls (p. 499), also in capillaries and in early animal forms.

It is interesting to note the fact in this connection (which has already been commented upon in the higher stages of development), that *every movement* of the animal, by extending or retracting the mantle and the branched peduncles, must *necessarily* increase circulation and respiration in correspondence. It could not be otherwise. Numerous stomata in the rounded extremities of the peduncles (*a*, *a*, *a*) afford free ingress and egress to the fluids in the central canals (*b*, *c*).

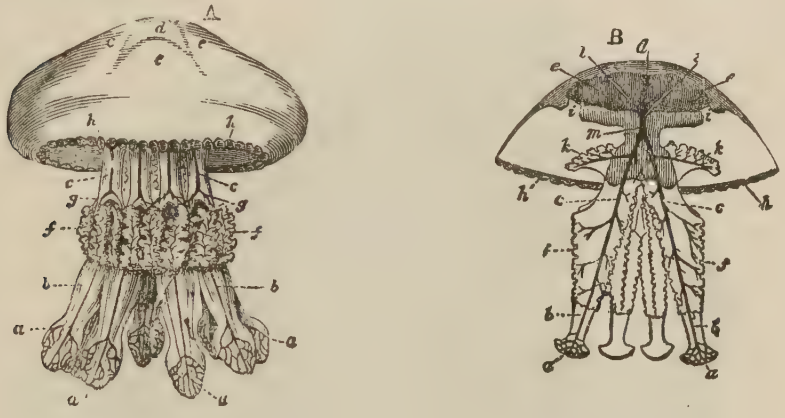


FIG. 2.—MEDUSA (*Rhizostoma cuvieri*). *A*, *a*, *a*, eight peduncles; *b*, *c*, internal canals leading up to the stomach; *d*, stomach; *e*, *e*, *e*, *e*, surmounting ovarial sacs (four); *f*, *k*, lateral respiratory canals; *h*, *h*, respiratory lobes on free margin of mantle (colored); *l*, *l*, thin membranous partitions separating the cavity of stomach from the ovarial sacs; *i*, *i*, external opening to ovarial sacs; *m*, œsophageal passage. (After Grant.)

The capillary loops at the sides of the peduncles (*f*, *k*), which function as absorbent and respiratory vessels, may be taken as the simile of the capillary loops in the tufts of the placenta.

This brief description will serve to explain the mechanical principle in the placenta, and it now remains to be seen how this action is assisted by the action taking place in the womb itself; or how the maternal and fœtal circulations are made to connect for effecting mutual interchange, the former supplying the nutritive and force-producing elements for the growth and elaboration of tissue, the latter yielding up the waste products to be borne back through the maternal channels to the environment from which everything is derived, and into which, in due time, everything is returned in the form of waste products and final dissolution.

MODE OF CONNECTING THE MATERNAL WITH THE FŒTAL CIRCULATION.

The circulation of maternal blood in the uterine and placental sinuses is the same in principle as that for circulating air in the lungs, namely, by rhythmical changes in pressure in the sinuses, which is produced by the action taking place in the womb itself; taking the placental sinuses to represent the alveoli, and the uterine the tracheal system, the blood flowing in and out of this system of canals by reflux action for renewal, just as the pulmonic air flows in and out of the tracheal system for renewal, only that in the former the fluid passes into the venous system of the mother and is returned by the arterial, both terminating by capillary openings in the canals, while the placental souffle answers to the respiratory murmur.

We have already spoken of the *rôle* which the placenta plays in this respect, and it now remains to take up the very important one which the uterus itself

FIG. 3.—Longitudinal Section of a Lately Gravid Womb, showing the canal system. Taken from a case of post partem hæmorrhage (partly diagrammatic). 1, peritonæum; 2, uterine canals (sinuses); 3, openings to canals on the mucous surface corresponding with openings to placental sinuses; *g*, Fallopian tube; *f*, ligament to artery; *r*, round ligament.

performs for completing this deeply-interesting mechanics, which it would be difficult to overestimate, underlying, as it does, embryonic life.

First, with regard to the uterine sinuses, we may mention that this canal

system which is channeled in the walls of the gravid womb does not consist of veins or arteries enlarged for the purpose, but, on the contrary, that the proper substances of the womb itself (muscles and connective tissue) compose the actual walls, which are lined by a delicate membrane answering to the lining membrane of the vessels. The difference is very material, since the vessels are enabled to expand and contract themselves for increasing circulation, while in the case of the sinuses, the walls of the womb would have to expand and contract in order to insure circulation in them, and that this is the case will appear more obvious as we proceed, the mechanics undoubtedly calling for such a condition.

When a longitudinal section is made of a gravid womb at full term, this canal system is seen to traverse its substance in various directions from near the central portions, but trending to the internal or mucous surface where they connect with the placenta (Fig. 3—2, 3). They never penetrate to the external surface to form continuous tubes with the arteries or veins; but on the contrary, both these systems of vessels connect with this system of canals by means of *capillaries*, the arterial emptying and the venous discharging from these common mains. Hence this blood is mixed as a matter of necessity.

The next important point is the method this system of canals exhibits in connecting with the placental sinuses, which is done by *projecting the lining membrane into the substance of the placenta* (Fig. 4, *c*, *c*, *c*, *c*). This spreads out at once

FIG. 4.—VERTICAL SECTION OF PLACENTA, showing arrangement of maternal and fœtal vessels. *A*, *a*, chorion; *b*, *b*, decidua; *c*, *c*, *c*, *c*, orifices of uterine sinuses. (After Dalton.)

to form the large cavitary spaces in which the highly ramified placental tufts are suspended and submerged in blood.

The walls of these large cavities in which the lining membrane of the uterine sinuses is merged answers to the outer surface of these highly-ramified tufts which fit into this as the fingers in a glove, the vascular loops being contained inside of them (Fig. 5, *a*, *a*). It is easy to perceive that this outside wall and the wall of the capillary itself *intervene* between the maternal and fœtal blood, and that interchange would have to be effected through these two

membranes ; hence, to be very active it would call for considerable force for producing this.

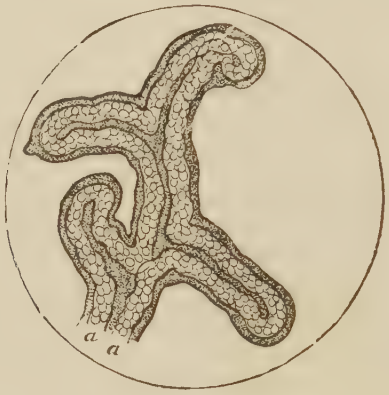


FIG. 5.—Extremity of Fœtal Tuft, from human placenta at term, in its recent condition. *A*, *a*, capillary bloodvessels. Magnified 135 diameters. (After Dalton.)

During attachment, when the sinuses are filled with the maternal blood they are greatly larger than after detachment, when the blood is forced out, and the tufts are compressed against each other in the maternal passages, reducing the placenta fully one-half its size. At the time of birth, the necks of the uterine sinuses, where they join the placenta, are readily torn through (Fig. 4, *c*, *c*, *c*, *c*), and, peeling off easily with the decidua, the organ is expelled, unless, forsooth, abnormal nutritive changes in the parts have made the union more intimate.

The problem in the mechanics concerns the manner by which the blood is speeded in and out these sinuses commensurate with the increasing wants of the growing embryo, and how this in turn is connected with the arterial and venous systems of the mother for compelling correspondence in them, the whole forming a connected movement—a movement within a movement, so to speak.

We have seen that *change of pressure is the law of the animal circulation*, and it now remains to make rigid application of this principle in mechanics to the special phenomena, anatomical and physiological, appertaining to this interesting region, in order to make them also intelligible, which otherwise are utterly inexplicable.

It follows, that for increasing circulation in the placenta we must provide for rhythmical changes in pressure, since no other force applies for producing it, and we must connect the action in the womb (which expands and contracts regularly and rhythmically) with the action in the placenta, so that when the latter expands for producing low pressure, the former contracts for producing the opposite, and *vice versa*.

In this manner an active circulation in and out the placental sinuses could be readily produced.

The following facts may be given in support of this opinion :

1. The womb must expand and contract regularly and rythmically in order to

increase circulation in the sinuses, since this is essential for changing pressure upon the blood, while the vast number of muscles and nerves in the walls of the womb are the provision for more energetic action than is possible to the placenta, which is composed almost entirely of vascular loops.

2. The womb *surrounds* the embryo, and its action would therefore be more effective for producing the changes in pressure upon it, which is also *in imitation of what takes place in the amnion* of the growing chick, it being rocked to and fro in the egg by the slow rhythmical expansions and contractions taking place in the amnion (p. 499), and by alternating this action with the one taking place in the placenta, it is readily perceived how a rapid circulation could be maintained in the maternal and placental sinuses for compelling correspondence between this and the energetic circulation in the embryo, since it all forms a connected whole. This would also be in conformity with the principle in the circulation, the blood flowing from high to low pressure. As the placenta *expands* for reducing pressure within itself, and for increasing pressure in the embryo, *simultaneously* and *pari passu* with this action the entire muscular walls of the womb *contract* for increasing pressure in the maternal sinuses for compelling this blood in the placenta, at the same time by increasing pressure upon the embryo it should determine a more rapid movement from the latter to the placenta; the one involving the other. But when the placenta contracts for increasing pressure (thereby compelling the blood out of itself in two directions, or toward the embryo and the maternal sinuses), the uterine walls *expand* for reducing pressure in the embryo and the uterine sinuses, thus greatly expediting the placental efflux; and, taking it all in all, there can be very little doubt but that the force which is represented in the muffled murmur of the placental souffle is mainly the product of the muscular uterine walls, though both undoubtedly contribute to it.

3. This action in the uterus and placenta would account for the very curious and suggestive *obliquity* in that portion of the canals connecting the uterine with the placental sinuses, being upon a line *almost parallel* with the transverse axis of the uterus and placenta, which is precisely what is called for by the special mechanics, in order to effect the lateral or to-and-fro movements, the vessels simply elongating and contracting with these, as the case may be, without interfering with the calibre of the tubes. Were the vessels straight, it would be utterly impossible to operate this mechanics, since the lateral movements should obliterate the vessels by closing the calibre. It could not be otherwise, in the very nature of things. In the accompanying diagrams (Figs. 3, 4), the vessels are represented as nearly perpendicular, but this is done simply for better definition.

4. But the strongest proof, perhaps, of this higher function of the womb is furnished in the vascular and nervous connections subsisting between it and the maternal organism. And as all this relates to circulation for building up and elaborating the embryo, obviously the mechanics for increasing circulation in the womb commensurate with that in the embryo should extend to the vessels of supply or the feeders, as also the discharging vessels, or the arteries and veins. It must be shown how this new movement, this new life set going

within the other, twines its arms around the maternal vessels and feeds itself in the measure of its necessities, by means of this pumping action in the womb and placenta which represents respiration. The spermatic and uterine arteries are the feeders (Fig. 6, *s*, *u*), while the accompanying veins are the discharging

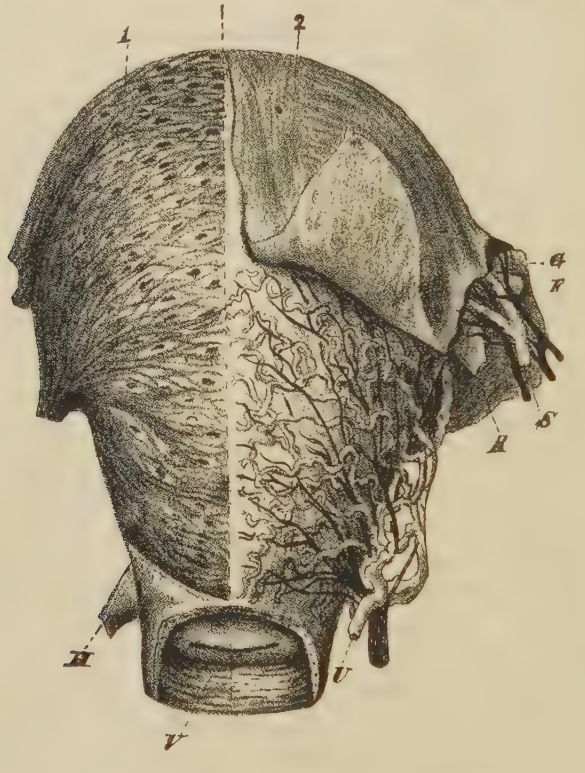


FIG. 6.—Showing the ARTERIES AND VEINS TO THE WOMB. *S*, spermatic artery and veins (ovarian); *u*, uterine artery and vein; 1, vessels passing between the muscular fibres; 2, peritonæum; *g*, Fallopian tube; *f*, ligament of ovary; *r*, round ligament; *h*, inferior ligament or duplicature of peritonæum corresponding with Douglas's cul de sac; *v*, vagina.

vessels. To this must be added the uterine lymphatics, which are very large in the impregnated womb. They terminate in the pelvic and lumbar glands. The spermatic arteries and veins have similar origin and termination, as in the male, while the uterine artery is a branch of the internal iliac, with the venous return through a vein of the same name. The deeply suggestive fact to note in this connection is that the dense plexuses of nerves to the fundus and sides of the womb *converge in the nervous ganglia* about these vascular trunks, or the spermatic and hypogastric ganglia (Fig. 7, *e*, *w*, *r*). It will be seen that the nerves to the fundus (*v*, *x*) converge in, or radiate from, the spermatic ganglion (*w*), which *surrounds* the spermatic artery and vein (*e*) (which corresponds with the attachment of the placenta), while those in the neck and sides from the hypogastric ganglion (*r*) are brought in direct relation with this ganglion by means of intercommunicating nerves (*t*) for unifying the action throughout.

Thus, nervous force to the womb is literally *banked upon the bloodvessels*,

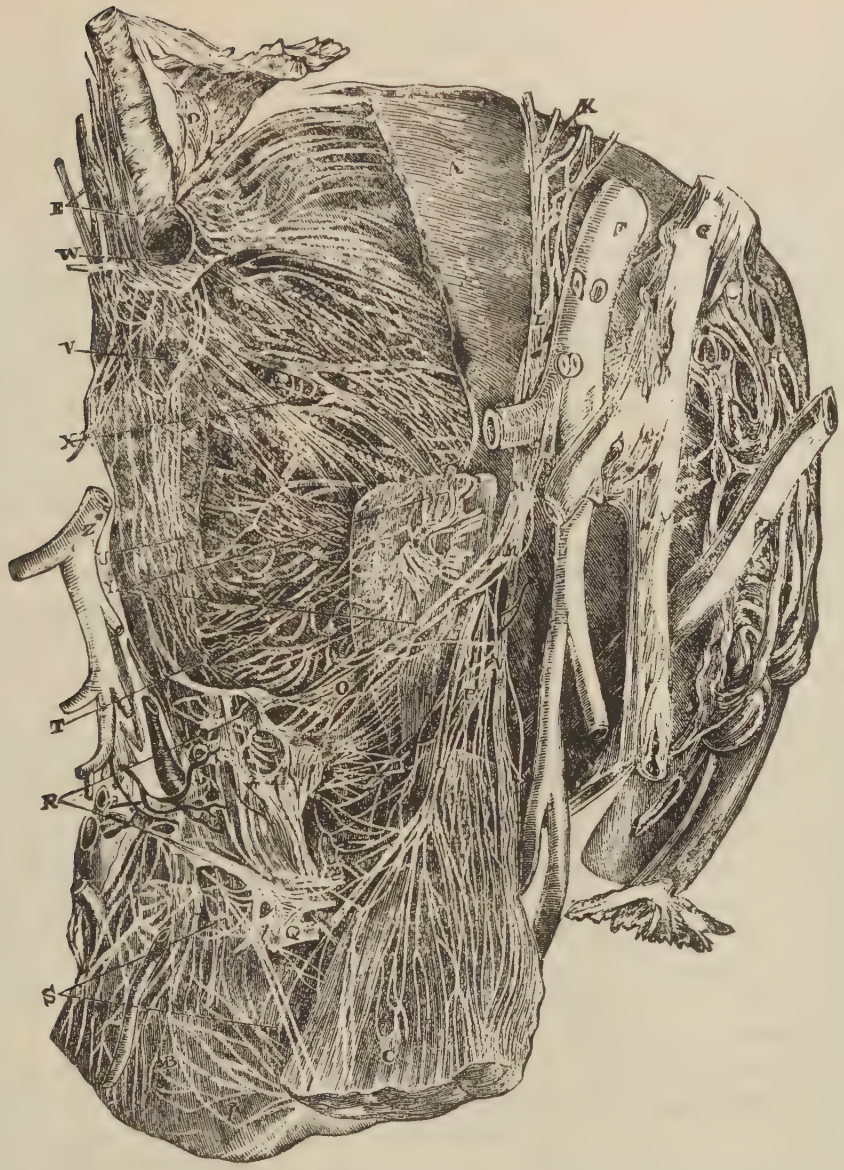


FIG. 7—Ganglia and Nerves of the Gravid Uterus at the End of the Ninth Month *A*, the fundus and body of the uterus, having the peritonæum dissected off from left side; *b*, the vagina covered with nerves proceeding from the inferior border of the left hypogastric ganglion; *c*, rectum; *d*, left ovarium and Fallopian tube; *e*, trunk of left spermatic vein and artery surrounded by the left spermatic ganglion; *f*, aorta divided above the origin of the right spermatic artery; *g*, vena cava; *h*, trunk of right spermatic vein; *i*, right ureter; *k*, the two cords of the great sympathetic passing down along the front of aorta; *l*, trunk of inferior mesenteric artery with the nervous plexus connecting with the right and left cords of the sympathetic; *m*, the two cords of the great sympathetic at the point of bifurcation into the right and left hypogastric nerves; *n*, right hypogastric nerve with its artery injected, proceeding to neck of uterus to terminate in the right hypogastric ganglion; *o*, left hypogastric nerve as it enters the left hypogastric ganglia, and giving off branches to the left sub-peritoneal ganglia; *p*, hæmorrhoidal nerves and artery; *q*, sacral nerves entering the whole outer surface of the hypogastric ganglion; *r*, left hypogastric ganglion with the arteries injected; *s*, nerves of the vagina; *t*, nerves with an injected artery proceeding from the upper part of left hypogastric ganglion along the body of the uterus, and terminating in the left spermatic ganglion; *u*, continuation of these nerves and the branches which they give off to the sub-peritoneal plexuses; *v*, some nerves passing upward beneath the sub-peritoneal plexuses; and anastomosing freely with them; *w*, left spermatic ganglion, in which the nerves and artery from the hypogastric ganglion, and the branches of the left sub-peritoneal plexuses terminate, and from which the nerves of the fundus uteri are supplied; *x*, left sub-peritoneal plexuses covering the body of the uterus; *y*, left sub-peritoneal ganglion, with numerous branches of nerves extending between it and left hypogastric nerve and ganglia; *z*, left common iliac artery cut across and turned aside to expose left hypogastric nerve and ganglion. (After Dr. R. Lee.)

and if this means anything it means that circulation *shall* be in correspondence with the physiological requirements, or supply equal to demand, the cardinal circumstance being the *growth* and *elaboration of the embryo*, which is the object and purpose of the organ, the others being simply incidental.

It comes to this, namely, that the nervous force for expanding and contracting the uterine sinuses should expand and contract the uterine bloodvessels at *one and the same time*, thereby causing afflux and efflux of blood through them for compelling correspondence throughout which the scheme calls for. Furthermore, this would accord with the action in the vessels in respiration, as indicated by the *undulations* in arterial tension. But would not this mechanics interfere with the due circulation of blood in the *placental* sinuses? Certainly not, and for the following reasons: 1. Efflux of blood through the veins is by means of capillary vessels, which tend to retard escape, while the flow of blood in and out the placental sinuses takes place through large canals (Fig. 5, *c*, *c*, *c*, *c*). But in addition to this, the *expansion* in the placenta, which occurs during systole of the womb, should also determine the blood in this direction.

2. During diastole in the womb and its sinuses, for aspirating the placental sinuses, the *high pressure* in the arterial system causes this blood to flow into the uterine sinuses as rapidly as the blood coming from the placenta; at the same time, the valves in the veins of the uterus obviate reflux from *the venous system*. When the womb contracts for compelling the blood in the placenta and venous system, the pressure in the arterial inhibits reflux in this direction. Thus the mechanics for increasing circulation in the uterine and placental sinuses is complete in every respect, nor does it require extensive expansion and contraction in the womb in order to effect increased circulation through the sinuses, but a moderate and limited amount, sufficient only for producing *rhythmical changes in pressure upon the blood*, as must appear obvious: something similar to what takes place in the spongiæ, which have muscles (Norway) for producing a more rapid circulation in and out this canal system.

This expansion of the womb and arterial feeders would explain the sudden and enormous escape of arterial blood in post partem hæmorrhage, for the placenta being no longer attached, the flow of blood through the uterine sinuses must necessarily be purely arterial. In other words, when contraction ceases and the movement of expansion sets in, the flood-gates are thrown open to the arterial system.

In reference to the nervous centre for this pumping action in the womb, which answers to respiration in the fœtus. There can be very little doubt but that the spinal-cord functions as the common reflex centre of nervous force for producing the rhythmical expansions and contractions in the gravid womb simulating respiration. The following are the reasons for this allegation: 1. The very intimate connection subsisting between the womb and spinal cord by means of the hypogastric ganglia and sacral plexus with the intercommunicating nerves. 2. The fact that the lumbar portion of the spinal cord undergoes enlargement during gestation (Mathews Duncan). 3. The fact that reflex action in the womb is readily produced by applications to the skin surface, a circumstance well known and practised by the profession. All these facts fall readily

into line when viewed from this standpoint, and, no scientific reason existing to the contrary, we may conclude the fact as logically proven. Indeed, the gist of the question is not whether there is a reflex centre in the spinal cord for the womb, but whether this centre produces the rhythmical expansions and contractions in that organ as alleged. A full and sufficient answer to this is furnished in the fact of the total absorption of the relative phenomena, anatomical and physiological, which otherwise are utterly inexplicable, underneath all which is the organic law on which animal life itself is constructed, calling for rhythmical changes in pressure in the contents of the gravid womb and in the uterine sinuses for increasing circulation. Nor is it reasonable that the enormous number of muscles and nerves in the womb are for compelling out the contents at the end of the term simply, but, on the contrary, that they perform an active and essential part in the work of construction which precedes expulsion. Beyond a shadow of a doubt, they are not idle in all this while, especially when supreme necessity would have it otherwise; on the contrary, they are *evolved as force is needed* for carrying on circulation, while at the end of the term they are available for assisting in expelling the embryo, hence perform an active *role* from the beginning to the end of their existence, as is ever the case with the muscles and nerves.

One other circumstance in this connection, namely, the very *tortuous* course of the arteries in the womb (Fig. 6), which undoubtedly is adjustment with this action, permitting the rhythmical expansions and contractions to take place without involving any strain to the vessels. The veins, it will be perceived, take a straight course, while the arteries are serpentine or bent upon themselves. This is due to the fact that the veins are more extensile, and possess greater powers of elongating and shortening than the arteries, the yellow elastic coat of the latter tending to limit their actions. It will be remembered that this circumstance has forcible illustration in the splenic artery and vein, the former being almost twice the length of the latter, to allow for expansion in the stomach when food is taken, otherwise this would involve prodigious strain to the vessels, with great reduction of the calibre. But the same remark will apply to the vessels of all the hollow viscera. Thus everything is in correspondence. Of course, the arc of movement in the womb and placenta is necessarily more limited than in the lungs, in which considerable space is required for sucking in the air simultaneously with the venous blood, but which would not apply for the fœtal circulation, as the oxygen is furnished by arterial blood at *one and the same time* with the nutritive and force-producing elements, which the scheme calls for in order to generate force, since it is by a combination of the two that force is evolved. The inclusion of the intestines with respiration by means of the pneumogastric nerves has its explanation in this circumstance, as has been fully set forth in the preceding pages. Differentiation in the organs cannot, for obvious reasons, work any change in the fundamental principle underlying the mechanics for increasing circulation, which is by rhythmical changes in pressure involving a pumping action for compelling the commerce in the bloodvessels and expelling waste products, while the *speed* of the currents thus produced is determined by the rapidity and energy of the rhythmical ex-

pansions and contractions pervading the organs, inclusive of the heart and vessels, since it all forms a connected movement for increasing circulation between the cell brood and environment, from which everything is obtained and into which the waste products are returned, the two going on simultaneously.

With the expiration of the intra-uterine term, expansion of the maternal passages sets in for reducing resistance to the egress of the embryo, and the womb and abdomen contracting simultaneously for increasing pressure in the womb, the contents are compelled out in the environment. Here, as elsewhere, *the law of pressure applies for compelling movement in the contents of the hollow viscera for which special adjustments obtain in the organs and organism*, the underlying principle being *rhythmical changes in pressure.*

The atmosphere being invisible, it is difficult to realize the important relations this sustains to the mechanics, nevertheless, the fact is incontrovertible, that from centre to circumference, and from surface to surface of the body it is corner-stone and foundation to *all the mechanics concerned in circulation.*

It is passing strange the matter should have escaped attention so long, especially in this age, when *thought* is reaching down into the organic basis of life. Indeed, one needs to go there if he would unravel the tangled skein in animal structure and function, since the definite arrangements that obtain in the organs with every stage in development show unmistakably a common relation to fundamental forces in nature underlying it all, notably *pressure and gravitation.* The animal body is not *outside* and *independent* of the organic laws, but, on the contrary, is in entire conformity with them, while the arrangements which obtain in the structures represent the relative adjustments for special work.

RESPIRATION IN THE NEW-BORN: THE CHANGE IN MECHANICS WHICH THIS INVOLVES.

The first thing in the new-born is to start respiration for compelling in the commerce in the environment in place of the uterine sinuses, and the action in the placenta for which this is the substitute, the oxygen passing in by way of the lungs and the aliment through the intestinal canals. But this requires fresh adjustments in the mechanics of circulation to bring it in correspondence with this circumstance, notably, circulation of the blood in the lungs, and the attaching of the intestinal apparatus to this movement by means of the nerves connecting in the medulla oblongata, a matter which has already been fully considered in the preceding pages. The first thing, therefore, is to start respiration, when it will be in order to consider how the mechanics in circulation swings into this pendulum movement for compelling correspondence throughout, with the blood ever flowing from high to low pressure in conformity with the organic law underlying the organism itself. One end of the nervous system, so to speak, is *spread out* in the skin surface, the other through the organism, while the medulla oblongata functions as the common centre to it all; any impression, therefore, made upon the skin surface is promptly reflected to the medulla oblongata, thence over all the structures for producing the reflex actions connected with respiration and circulation. The irritations attendant upon parturition from friction against

the maternal structures are calculated to produce these reflex actions; but the contact of the sentient surface with the stimulus in the atmosphere itself would also excite it. And if the child should be injured by the rude experiences incidental to parturition, a yet more powerful means for exciting the reflex actions connected with respiration is furnished by the sudden application of cold to the surface, as in sprinkling cold water upon it, * or a sudden, sharp slap with the open hand may be substituted instead, as is commonly practised. Last, but not least, carbonic acid, as it accumulates in the blood, acts as a special stimulus to respiration. It cries out in pain, and, presto! the hæmal mechanics is changed. The low pressure which is produced in the alveoli by expansion of the lungs during inspiration compels *simultaneous* afflux of air and blood in the alveoli; while the high pressure which is produced by the subsequent contraction during expiration causes *simultaneous* efflux in these fluids, which flow from high to low pressure in conformity with organic law—the one flowing out by reflux action through the route of ingress, the other passing into the left chambers of the heart and arterial system on its way to the cell-brood, as has already been described in the air-breather. This abandonment of the old route for the new is readily explained, since it is in strict accordance with physical law, being in the direction of least resistance.

For example, we *begin* the mechanics with high pressure in the arterial system, since this extends through the ductus arteriosus to the semilunar valves of the pulmonary artery, the floor of support to the arterial column. Hence, when the alveoli expand during inspiration for sucking in air through the trachea, the high pressure in the pulmonary artery and ductus arteriosus compels this blood to flow straight on to the low-pressure areas in the alveoli *simultaneously* with the afflux of air, or in the direction of least resistance, in place of forcing its way in the arterial system against high pressure, which would be contrary to law. And the ductus arteriosus, though still filled with blood, as in the case of an artery, beyond the ligature to where a collateral branch is given off, shrinks and contracts till it becomes a solid, impervious cord.

For closing the foramen ovale the following mechanics apply: After birth the inpour of blood in the left auricle by way of the pulmonary veins is as rapid as it is in the right auricle through the venæ cavæ, and pressure is at equilibrium in the two auricles, which at once suspends all tendency in the blood to pass from one side into the other during auricular diastole; whilst during the auricular systole and the high pressure this produces in the auricles causes this blood to flow into the expanding ventricles, where low pressure invites it, the same applying for either auricle. But gravitation also should compel it in this direction, since the ventricles are *under* the auricles. Thus a dual force applies (suction and gravitation) for compelling this blood in the ventricles during the auricular systole, and the foramen ovale, being thus abandoned, is closed and obliterated by membranous formation.

But in intra-uterine life the matter is different; here the whole blood is

* The intimate connection subsisting between the respiratory centre and the skin surface is of easy demonstration in the adult by the same means. For example, every impact of cold water against the skin produces spasmodic inspiration or expansion in the lungs; not deep, however, but very energetic.

poured into the right auricle, that from the upper cava passing at once in the right ventricle, while that in the lower cava (which includes the blood from the umbilical vein) passes through the right into the left auricle, with which it directly communicates, guided by the Eustachian valve, but also pushed over and deflected in this direction by the weight of the descending current from the upper cava; but if the head be downward then by its own weight the blood would gravitate in this direction, the influx of blood from the upper cava also compelling it. And with the absence of blood as a *counter-force* in the left auricle this blood is necessarily compelled in the latter, thence in the left ventricle and aorta, while that in the right ventricle passes in the arterial system at the aortic arch by way of the pulmonary artery and ductus arteriosus. After birth, however, the pumping action in the lungs reverses all this in manner as above described. The pulmonary artery in the embryo, in place of discharging through the lungs, left auricle and ventricle, empties its blood at once into the aorta as it passes under the arch, and which is also in the direction of least resistance, since it is impossible for this blood to thread its way through the capillary meshes of the *unexpanded* alveoli. This circumstance has forcible illustration, even in the air-breather, and when the alveoli are filled with residual air, by simply inhibiting inspiration by closing the mouth and nose so as to prevent expansion in the lungs, the blood, in consequence, rapidly accumulating in the right side of the heart and venous system. In the space of a minute there is lividity of the lips and whole cutaneous surface from venous stasis in the systemic capillaries. If longer than this, an appalling venous suffusion pervades the surface; in the face most, for this is the most vascular portion, with the large venous trunks in close proximity to the heart. Even the eyes are forced outward, becoming prominent from distension of the intra-orbital veins caused by obstruction in the cavernous and lateral sinuses. But the instant the obstruction is removed and the lungs are permitted to expand the dammed-up blood surges through the alveoli, and all runs on as before. In other words, the heart and vessels are unable to carry on circulation in the absence of the pumping action in the lungs, for which afflux and efflux of air is essential. But all this has been sufficiently explained.

INCUBATION. CIRCULATION IN THE EGG.

Why should there be an air-chamber to the egg (Figs. 8 and 9)? We are now prepared to furnish a scientific explanation to this physiological problem, otherwise inexplicable, viz., the contents of the egg for developing the chick is enclosed by a firm unyielding wall of living marble, and since the animal circulation is dependent upon rapid rhythmical changes in pressure, it follows that provision should be made *within* the shell for effecting this, otherwise the action in the heart and vessels could not take place. This air-chamber (*g*), together with the important relations it sustains to circulation and elaboration in the growing chick, organilogically, therefore, must be regarded as one of the most essential and important elements in egg-structure, the underlying principle to all the nutritive changes which are ushered in under the action of external temper-

ature. The accompanying illustration (Fig. 9) will serve to impress the matter.

The discipline in the nutritive processes requires the blood to be brought from the vitellus and aërated in the allantois, thence to be dispatched through the body territories. Accordingly two great venous trunks (omphalo-meseraic veins), one in each fold of the splanchnopleure, embracing the vitellus, are the

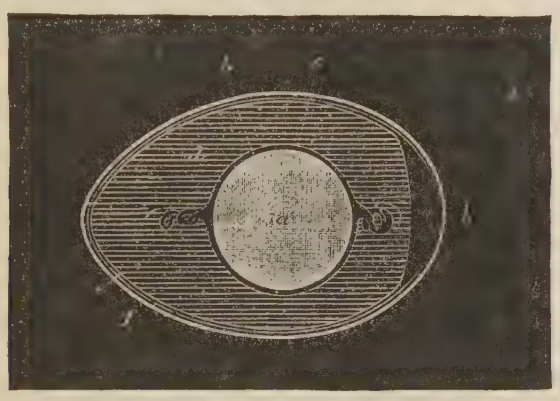


FIG. 8.—Diagram of Fowl's Egg. *A*, yelk; *b* vitelline membrane; *c*, chalaziferous membrane; *d*, albumen; *e*, *f*, middle and internal shell membranes; *g*, air chamber; *h*, calcareous shell. (After Dalton.)

first evolved, while at the terminal ends or confluence the heart is formed by the blending of the walls of these venous trunks.

According to His, the heart is developed by the coalescence of a layer of the splanchnopleure with a similar layer from the somatopleure, the hollow cavity formed by the union being in free communication with the adjacent omphalo-

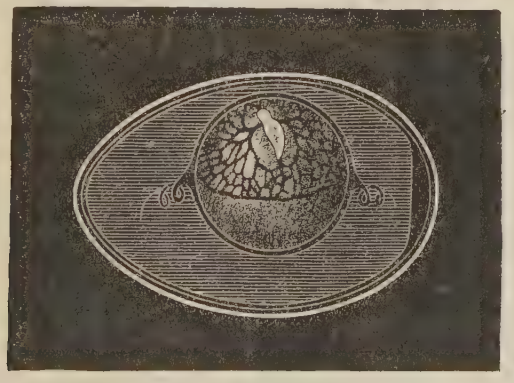


FIG. 9.—Egg of Fowl in Process of Development, showing area vasculosa, with vitelline circulation, terminal sinus, etc.

meseraic veins. According to Foster and Balfour "the upper end of the heart is developed out of the mesoblast of the splanchnopleure," but "increases in length step by step at the expense of the continually coalescing omphalo-

meseraic veins." Thus the fact is undeniable, that the heart is developed in the *venous system in connection with the vitellus.* The rhythmical expansions and contractions in this organ (the *punctum saliens* of early authors) serve to pump the vitelline fluids in the bulbus arteriosus and the two aortæ which are developing at the other end of the heart. But for this air-cushion within the egg (Figs. 8 and 9, *g*), neither these rhythmical expansions in the heart nor the changes in pressure for compelling circulation in the vitelline fluids could take place, since the unyielding shell would inhibit these actions, as must appear obvious.

Respiration is provided for in the following manner: The allantois (a diverticulum of the intestinal canal) is pushed out around the amnion which contains the embryo, and expanding its vast capillary net-work of vessels (whose footstalks spring from the two iliac arteries, as do the umbilical arteries in the mammalian embryo) against the shell-membrane or chorion becomes the respiratory organ of the chick, by means of which the venous blood is constantly arterialized, the oxygen passing in and the carbonic acid passing out through the pores in the shell by the action of the polar forces. But "at the time the heart first begins to beat, the capillary system of the vascular and pellucid areas is not yet completed, and the fluid which is at first driven by the heart contains, according to most observers, very few corpuscles. . . . . The course of the blood then, during the latter half of the second day, may be described as follows: The blood brought by the omphalo-meseraic veins falls into the twisted cavity of the heart, and is driven thence through the bulbus arteriosus and aortic arches into the aortic trunk. From the aorta by far the greater part of the blood flows into the omphalo-meseraic arteries, only a small amount passing on into the caudal terminations. From the capillary net-work of the vascular and pellucid area into which the omphalo-meseraic arteries discharge their contents, part of the blood is gathered up at once into the lateral or direct trunks of the omphalo-meseraic veins. Part, however, goes into the middle region of each lateral half of the sinus terminalis, and there divides on each side into two streams. One stream, and that the larger one, flows in a forward direction until it reaches the point opposite the head, thence it returns by the veins spoken of above, straight to the omphalo-meseraic trunks. The other stream flows backward, and becomes lost at the point opposite the tail."*

The following from the same authors is deeply suggestive: "Soon after its formation the heart begins to beat, at first slow and rare pulsations, *beginning* at the *venous* and passing on to the arterial end. It is of some interest to note that its functional activity commences long *before* the cells of which it is composed *show* any *distinct differentiation* into *muscular or nervous elements.*" It would be difficult to overestimate this circumstance, since it establishes beyond peradventure the power in the higher as in lower animals to effect rhythmical expansions and contractions in the soft tissues in the absence of any muscle or nerve for producing them. But at present the significance of these rhythmical expansions and contractions taking place in the heart concerns us most, since the manifest purpose is to increase circulation; and as this can only be done by

* Foster and Balfour's "Embryology."

pumping the blood of the omphalo-meseraic veins, it follows that both expansion and contraction is necessary for accomplishing this, the one for aspirating this fluid, the other for propelling it. This would explain why the action should *begin at this end of the heart.* Of course, as the area of circulation increases it would call for corresponding increase of force for effecting it. Accordingly, *pressure is increased* for facilitating circulation at the same time that additional force is placed upon it; notably, the former is produced by the amniotic fluid and the latter by the action in the amnion.

The amnion closes around the embryo of the chick on the fourth day, and on the fifth fluid begins to collect in the sac, and by the seventh the embryo is submerged in a considerable quantity of water. "By the seventh day very obvious movements begin to appear in the amnion itself; slow vermicular contractions creep rhythmically over it. The amnion, in fact, begins to pulsate slowly and rhythmically, and by its pulsations the embryo is rocked to and fro in the egg. This pulsation is due, probably, to the contraction of involuntary muscular fibres, which seem to be present in the attenuated portion of the mesoblast, forming part of the amniotic fold" (Foster and Balfour).

The physiological significance of this accumulation of amniotic fluid, and the rhythmical contractions and expansions in the amnion, may not be doubted for a single moment, since the former would increase pressure, while the latter should produce the necessary changes in pressure in the embryo for compelling respiration and circulation to be in correspondence with the nutritive and functional processes in the growing chick, both of which are constantly extending their limits and requiring more and more force for effecting them. These slow pulsations in the amnion of the chick answer to the placental and uterine souffle in gestation, the principle being precisely the same. How otherwise explain this circumstance? But, as has already been remarked, *all pulsations relate to changes in pressure,* and these pulsations in the amnion, together with the amniotic fluid, relate to changes in pressure in the embryo for increasing circulation of the juices.

The explanation of the mechanics is sufficiently easy; notably, there are two cardinal points from which to regard it—one in the allantois, the other in the embryo. First, commencing with the movement of expansion in the allantois. The increase in pressure which this produces in the embryo through the amniotic fluid should cause the venous blood to flow with increased energy towards the allantois, the point of low pressure within the egg (the heart and vascular system, of course, assisting in this); the contraction or condensation of the amnion, by relieving pressure in the allantois, enables this to expand *pari passu* with contraction in the amnion for aspirating the venous blood, at the same time that it aspirates the air through the outer membrane and pores of the shell. When the movement is reversed by expansion of the amnion, the reduction in pressure which this effects in the embryo, together with the simultaneous increase of pressure it produces in the allantois by forcibly compressing this against the shell wall, causes the aerated blood in the latter to flow with augmented speed into the heart of the embryo, as also through the tissues of the

latter; since the blood vascular system would be less embarrassed and be more free to act in consequence.

But the allantois itself also participates in this action, the fluid it contains enabling it to effect such rhythmical compression of the capillary plexuses

FIG. 10.—Diagram of Young Embryo and its Vessels, showing circulation of umbilical vesicles, and also that of allantois, beginning to be formed. (After Dalton.)

(Fig. 10). The following forcible illustration (Fig. 11) by the distinguished biologist at Jena will serve to impress the matter. At this early stage in development (third week in gestation), it will be seen that pressure is increased at the cardinal points, namely, vitellus (*a*), the body of the embryo (*c*), and allantois

FIG. 11.—Human Embryo in the Third Week. *A*, large globular yelk-sack; *b*, allantois; *c*, amnion; *d*, tufted chorion. There are yet limbs. (After Haeckel.)

(*b*). As the embryo and allantois are elaborated out of the material in the vitellus, this would explain the greater accumulation of fluid in this locality for compelling circulation toward those two points, whilst the rhythmical contractions of the yelk sac should greatly expedite it. For increasing circulation

between the embryo and allantois (*c*, *b*), commensurate pressure is produced by accumulation of fluid in these two points or poles of the circulation. This, together with the action in the membranes themselves, and the heart and vessels, is sufficient for carrying on circulation in the initial stages of embryonic evolution; but with the increase of growth comes increasing difficulty for effecting it; hence the pumping action which is set up in the placenta and womb, together with the accumulation of amniotic fluid for transmitting these actions upon the embryo, as described above. Thus, everything is in correspondence—the liquor amnii, the increasing growth of the placenta and the number of muscles and nerves in the walls of the womb—and so continues till the close of pregnancy. In other words, it all forms a connected whole in the mechanics of the embryonic circulation.

In the case of the bird, the allantois answers to the placenta, since it pumps in both oxygen and nutriment; only that the pumping action in the abdomen (the soft hinder parts of the bird) for pumping air and blood through the alveoli, is set up in the latter days of incubation, when rapid atrophic changes soon obliterate the umbilical vessels, and, breaking the now attenuated and fragile shell-wall with its beak, it finally makes its escape, leaving the allantois and atrophied membranes behind.

MODE OF GRAFTING THE OVUM IN THE TISSUES OF THE WOMB.

In *mammalia* the ovum is not discharged from the maternal passages, but is retained in the expanded oviducts at the point of juncture, which answers to

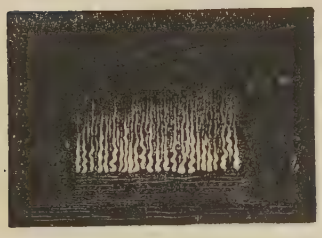


FIG. 12.—A VERTICAL SECTION FROM THE UTERINE MUCOUS MEMBRANE, showing the numbers and position of the tubules. *A*, free surface; *b*, attached surface. (After Dalton.)

FIG. 13.—Same tubules, greatly magnified. (After Dalton.)

the womb, where growth and elaboration are effected through the vascular connections established between it and the maternal circulation. Briefly, the mode of closing this is as follows: The uterine mucous membrane is virtually but a dense mass of single, straight follicles, arranged perpendicularly to the free surface (Figs. 12, 13), and with the closed end resting against the muscular

walls of the womb. At intervals, fine bloodvessels course up between them, and, reaching the mucous surface, surround the tubules with a capillary network. But when fecundation is effected vascular turgessence at once sets in, producing rapid growth and development of the membrane—of the follicles especially; and, coming in contact with this highly vascular and tumified surface as it leaves the Fallopian tube, the ovum is rapidly incorporated with it, by means of the shaggy villosities which are thrown out from the outer surface (Fig. 14, *a.*),

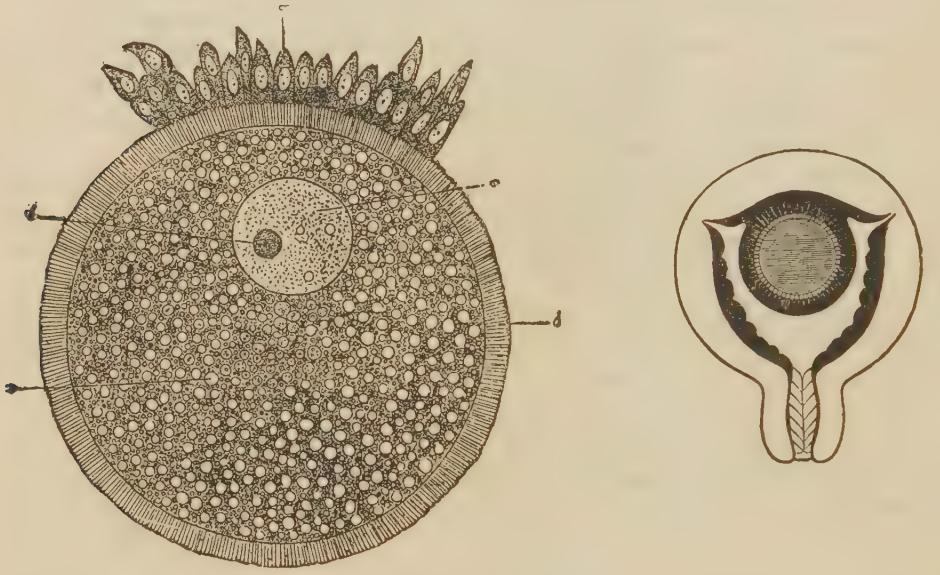


FIG. 14.—OVUM OF THE RABBIT, from a Graafian follicle $\frac{1}{60}$ of an inch in diameter. *A*, epithelium of the ovum; *b*, zona pellucida, with radiating striations (vitelline membrane); *c*, germinal vesicle; *d*, germinal spot; *e*, vitellus. (After Waldeyer.)

FIG. 15.—IMPREGNATED UTERUS, showing connection between villosities of chorion and decidual membranes. (After Dalton.)

which grow into the expanded orifices of the tubules, and function as temporary villi for pumping the abundant albuminous secretions of the glands in the interior of the ovum. Of course, they contain all the elements of tissue structure. With the ingrowing of the shaggy tufts of the chorion in the follicles, the mucous membrane expands around the ovum for bringing the follicles in contact with every portion of the chorion till the whole is completely enclosed, forming what is known as *decidua reflexa*, while that portion of the membrane with which it first came in contact, in immediate relation with the muscular walls, constitutes *decidua vera*, the part that enters the structure of the placenta which is subsequently formed. At this time the villosities of the chorion project into the uterine follicles in every direction (Fig. 15), but as growth proceeds, and more and more nutriment is needed in the embryo, the villi in relation with *decidua vera* become vascular, while those in relation with *decidua reflexa* are atrophied, in consequence of which this portion of the chorion becomes bald. Finally, the transformations which occur in the placenta

convert the tubules into placental sinuses, and the villi of the chorion into vascular loops, surrounded and embraced by the lining membrane of the sinuses, like the fingers of a glove (Fig. 16), as before remarked; but since the capillary loops are projected in the villi, the natural inference is that the walls of the latter coalesce with the walls of the sinuses to form this intervening membrane. In this manner the embryonic and maternal structures are inseparably blended.

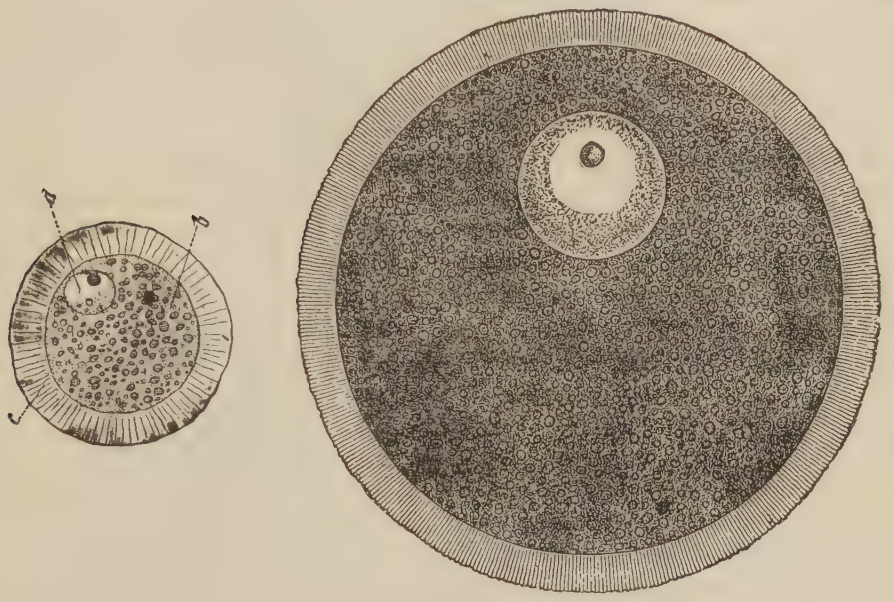


FIG. 16.—OVUM FROM THE MOLE. *A*, nucleus; *b*, cell body; *c*, thickened corpuscle traversed by pores. (After Leydig.)

FIG. 17.—THE HUMAN EGG FROM THE OVARY OF THE FEMALE: MUCH ENLARGED. The entire egg is a simple, globular cell. The greater part of the spherical egg-cell is formed by the egg-yelk, or the granular cell-substance (protoplasm), which is composed of innumerable delicate yelk granules, with a little intervening substance. The germ-vesicle, answering to the cell-kernel (nucleus) lies in the upper part of the yelk. It contains a dark nucleolus or germ-spot. The globular mass of yelk is surrounded by a thick transparent egg-membrane (*zona pellucida* or *chorion*). This is penetrated by the pore-canals, in the form of very numerous hair-like lines, which run rapidly towards the centre of the globe; through these the thread-shaped, moving sperm cells pass, in the process of impregnation, into the egg-yelk.

The common relation which animal life sustains to the organic laws has forcible illustration in the very ova, the structure being fundamentally the same (Figs. 16 and 17). The absence of a shell wall permits expansion in the chorion *pari passu* with the growth of the embryo, while the womb expands in concert with this action in the chorion and embryo.

Article II.—Appliances for the Treatment of Fracture of the Femur.

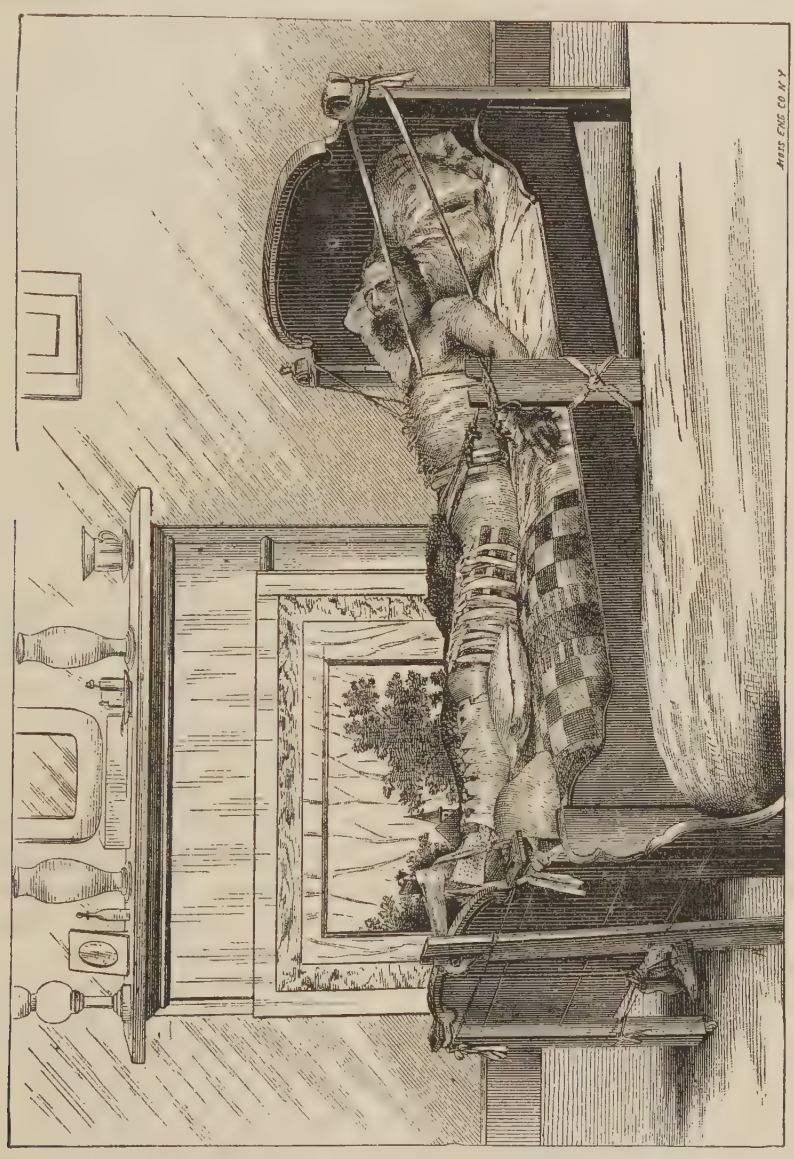
By Jno. Brownrigg, M.D., Columbus, Miss.

In the "Transactions of the Mississippi State Medical Association for 1881," I reported the use of a cloth jacket for counter-extension in this fracture. Since then I have treated three cases. One, a lady of forty-eight years of age who had ununited fracture of the femur of ten weeks' standing; another, a man thirty years of age, and the third, a little girl of two years of age. I used, in these cases, a band around the pelvis, secured to an upright piece of plank at the side of the bed to keep the body and fractured limb aligned, instead of a long side splint. I will describe these appliances in detail at the risk of repetition, which may be excused on account of the importance of arriving at a proper mode of treating this fracture without any shortening.

Two thicknesses of unbleached drillings or other strong cotton cloth of good quality, wide enough to reach from just below the axilla to a point an inch and a-half below the lower margin of the ribs should be passed around the body and brought together in front so as nearly to meet. To make the jacket fit the form, a pleat should be made on each side, gradually diminishing in width from below upward, as far as necessary. A strap of such material as a tourniquet strap, or such as boot-straps are made of, with a strong buckle on one end, should be sewed by a row of stitching on both edges to the outside of the jacket, near its lower margin, so as to admit of buckling the strap tightly around the body below the margin of the ribs. Above this strap, an inch and a half from both edges of jacket in front, should be sewed strong tapes about an inch apart, opposite each other, so that the jacket may be laced tightly to fit the form from its bottom to its top. When it is convenient to do so, eyelets may be secured to holes in the edges of the jacket and a cord used to lace it instead of the tapes. Four straps, made of the same cloth as the jacket, should be sewed to the upper edge of the jacket, two in front and two behind, about halfway between the neck and shoulders. These straps should be about a yard and a half long, or long enough to admit of being tied to the head of the bedstead, wide enough apart to admit of free movements of the head and high enough to slightly lift the shoulders. When the patient is a woman, crucial incisions should be made in the jacket over the breasts to prevent pressure. Counter-extension should be made with straps of porous rubber or moleskin adhesive plaster, secured to the leg by a many-tailed bandage tied together over a piece of pasteboard or thin tarboard in front of the leg. Buck's thin block should be placed in the loop of the strap of adhesive plaster and the ordinary cord, roller and weight applied. The upright piece of plank at the foot of the bed, to the top of which the roller is secured, should be eight inches wide and tall enough to lift the heel a few inches above the bed. An upright piece of plank, a foot and a half taller than the bed, with two auger holes near its top, should be secured to the side of the bed opposite the pelvis. A broad band of cotton cloth should be passed around the pelvis and its ends secured to the top of this piece of plank, through the holes in it, and tightened so as to keep the body aligned with the fractured limb. Two splints made of strong tarboard, lined

with cotton wadding and cotton cloth, next to the skin, should be fitted to the thigh so as nearly to meet, one on the inside and one on the outside of the thigh, the latter being long enough to reach to and steady the trochanter.

These splints should be secured with bandages or cords. The weight should be applied and gentle extension and counter-extension made before binding on



the splints. An air or feather pillow should be placed under the knee, so as to elevate it about five inches above the bed when the fracture is low down; when high up, not so much as five inches. To prevent eversion of the limb, two pieces of thin plank, about five inches wide, should be nailed to the board at the foot of the bed below the roller, long enough to reach above the ankle, and

the foot steadied by wool cushions placed between the foot and these boards. A thin light board about as wide and a few inches longer than the foot should be placed between the foot and Buck's thin block, so as to support the foot.

In applying the adhesive plaster care should be taken to have Buck's thin block so near the foot that the pressure of the foot will retain the thin board in its place. The counter-extending bands, the extending cord, and the pelvic band, being secured at an elevation, have a tendency to lift the body and lighten its pressure on the bed, so that bed sores are never caused. The jacket affords a comfortable support, taking off the weight of the body from the fractured limb. When taken off after being worn for four or five weeks, the patient at once complains of the pressure of the body on the bed. The perineal band is dispensed with, which is a great advantage, especially in women. There has not been any perceptible shortening in any case treated with these appliances. In adult cases the jacket readily antagonizes a weight of fifteen to twenty pounds. The ordinary mattress arranged for defecation should be used. I feel confident that any surgeon who uses these appliances once will not lay them aside for any others now in use.

It is necessary that the belt at the lower edge of the jacket should be kept so tight that it cannot slip up over the lower edge of the ribs. If it does, the jacket must be loosened, pulled down and the belt tightened. Some little time may elapse after it is first put on before it ceases to stretch and give any trouble. In one case the patient removed it the first night but asked to have it replaced in a few hours.

So much of this article is taken from the "Transactions of the Mississippi State Medical Association." The author continues in his communication to this JOURNAL as follows:

I feel very much flattered that you should think favorably of my article on fracture of the femur. The cut in the transactions was taken from a case of compound comminuted fracture of the femur caused by a large conical pistol ball, which passed through the limb and half buried itself in hard wood, and was found at a distance of ten feet. You will observe that there are some differences in the dressings growing out of the nature of the case from those described in the article. The photograph was taken from this case at the request of the Secretary of the State Medical Association, the article having been previously reported. The splints were applied to the naked skin, and the two next to the wounds were cut out thus

to admit of washing and dressing the wounds, without disturbing the coaptation splints or relaxing in the least the extension or counter-extension. An air-pillow (under the leg and knee), blown up, partially elevated the thigh a little, so as to admit under it a piece of rubber-cloth to carry off surplus water in washing the

wounds. The result in this case was perfect. This seems to me to be much preferable to Hodgen's or Nathan R. Smith's splints for gunshot fractures of the femur. I have used this jacket for counter-extension with a perfect result in a case of fracture of the neck of the femur; also in a case of ununited fracture of the shaft of the femur of ten weeks' standing, in which there was no union and a shortening of two inches and three-quarters; the two ends of the bone being freely movable one upon the other, and the bone could be bent readily to a right angle at the point of fracture. This patient walks now with scarcely a limp, and with a shortening of half an inch. It is especially applicable to females, particularly to little girls. I have just taken it off of a little girl's thigh six years of age with a perfect result. It is applicable to all ages and both sexes, and to every form of fracture of the femur. The counter-extension is fully sufficient in any case. The photograph, or cut from it, in the "Transactions" represents a case in which the muscular spasms from spiculæ of bone were so great that (21) twenty-one pounds extension were required, afterwards reduced to twenty and then, after fourteen days, to fifteen pounds. If one will examine the results of gunshot fracture of the femur in the third surgical volume "Medical and Surgical History of the War," he will see that some improvement on Hodgen's or Nathan R. Smith's plans is required. If one could have seen the little girl just treated lying comfortably, playing with her dolls, he would have a little respect for this jacket; that is, provided it furnishes the required counter-extension. I treated one little girl two years of age with a perfect result. I have treated eleven cases, and I am fully satisfied with it. I think Dr. F. H. Hamilton admits that his plan of elevating the foot of the bed does not answer for children. It certainly will not answer in cases of delirium, insanity, or in cases that are so ignorant that the will cannot be made a part of the treatment. Other surgeons who have used it prefer it to any other plan. I have the jacket which came off from the little girl. It was made by her mother, under my direction. When the case is over you can put all the dressings in your overcoat pocket. They cost about one dollar. If the jacket is made by a tailor, the whole of the dressings cost about one dollar and eighty cents. But it is only by frequent trials that a surgeon can appreciate the great relief from trouble, expense and suffering which this jacket affords. I hope it may be made known in army circles, for it will answer the purpose in gunshot fracture of the femur.

ARTICLE III.—SPASMODIC URETHRAL STRICTURE. By F. C. TICE, M.D., Peoria, Ill.

That the tendency of organic stricture is to return, is generally admitted; as in my experience the liability is much greater where there is co-existent spasmodic stricture at or near the meatus, my rule has been to remove the latter in any case where it seriously interfered with the treatment of organic contractions beyond, and the results have been gratifying to the patient and to myself. In the treatment of spasmodic stricture at or near the meatus, the text-books recommend division followed by plugging to prevent hæmorrhage. Against this there are several serious objections. The plug completely closes the canal,

so that when necessary to relieve the bladder the plug must be removed: bleeding invariably follows. The patient cannot replace the plug, and must, therefore, go to the surgeon each time he desires to micturate. Dilatation is necessary that union and contraction may not occur; this causes more or less pain, and for several days bleeding follows each operation. To obviate all this, I have adopted a mode of procedure as follows: The penis is blanched by means of a rubber bandage; the exact point of constriction is noted by means of an olive-pointed bougie; then, with a probe-pointed bistoury (I prefer the curved) the division is accomplished. The wound being thoroughly dried, flexile collodion is applied to the cut surfaces, and extends slightly over the sound tissue. After applying several coats and allowing them to harden, the surfaces are closely approximated. An assistant now passes an oiled bougie, No. 12, French scale, through the upper portion of the canal to keep it patent, while six or eight coats of collodion are applied as a splint to hold the surfaces together; when the last coat is dry, the bougie is carefully removed with a spiral motion, and the rubber bandage is taken away in such a manner that the re-establishment of circulation takes place gradually. If the operation has been properly performed not one drop of blood will be lost. The organ is then strapped to the abdomen, and the patient ordered to keep quiet at his home for several hours. The straps are removed in twelve hours. In from three to six days, the entire collodion coating comes away in one piece; the cut surfaces are found to be healed; no union has taken place, and treatment of posterior organic strictures can be easily accomplished. A number of cases in which this treatment has been adopted have been signally successful: in but one case has there been hæmorrhage following the operation, and in this the stricture was rather too far back to allow of proper application of the dressing, and the patient was of hæmorrhagic diathesis. The main points are to have the cut surfaces perfectly dry; the collodion to cover the entire cut surface and a portion of the sound tissue, and the whole protected and held together by the outer collodion splint. I have never seen this method suggested, and believing it to be new, original, and, above all, practical, and greatly to the advantage of patient and surgeon, I place it before the profession for what it is worth.

A Syphilitic Placenta.—Before the Medical Society of the District of Columbia (*Maryland Medical Journal*), Dr. Murphy presented a syphilitic placenta, obtained from a woman whose vagina was filled with condylomatous warts. The cord measured forty-one and a half inches. He presented for comparison a placenta obtained from a healthy woman. In the supposed syphilitic placenta the vessels were largely dilated, and the chorion and amnion presented abnormal features. This placenta was thicker, harder and larger, though weighing less than the healthy one, and fatty degeneration was going on more rapidly. Could these differences account for still-births occurring in syphilitic subjects?

RÉSUMÉ OF ORIGINAL ARTICLES

IN OTHER JOURNALS.

PULSATING EMPYEMA.—This interesting affection has been made the subject of a dissertation by Dr. Comby, who gives some additional information about it (*Archives Générales de Médecine*, Nos. 11 and 13, 1883). A pulsating empyema presents the ordinary symptoms of chronic pleurisy, associated with visible and tangible pulsations which simulate those of an intra-thoracic aneurism of the aorta. The pulsations may occupy a large surface, or a limited part of the thoracic wall; they are observed on the left side only, and appear one or two years after the pleurisy itself. Two conditions are necessary for their occurrence; first, the left lung must be indurated, and transformed into an almost solid fibro-elastic mass; then this fibro-elastic mass must be fixed by adhesions to the pericardium, but not retracted towards the vertebral column in the usual manner. These conditions were only found by Comby in phthisical patients, and the prognosis is of course very unfavorable. A pulsating empyema is liable to be mistaken for an aneurism of the aorta, but there is no expansion, no *bruit* and no modification of the femoral pulse, while the existence of fluid in the pleural cavity is constant. Intra-thoracic malignant growths, and Graves's pulsating pneumonia may also cause some difficulty, and must not be forgotten in the diagnosis.

CHOLECYSTOTOMY AND EXTIRPATION OF THE GALL BLADDER.—Dr. Martin Burke of New York has recorded (*New York Medical Record*) two cases of successful incision of the gall-bladder. The first was a youth aged 18, incapacitated from work through a pain in the abdomen, which was severe and constant as long as he stood erect. Immediately to the right of the ensiform cartilage was a small fluctuating tumor, painful on pressure, and of the size of a duck's egg. There was slight jaundice, and elevation of temperature, little or no constipation, and no abdominal tenderness, except over the swelling. Suppuration of the gall-bladder was diagnosed; and Dr. Kearny, a colleague of Dr. Burke, made an incision into the swelling. A large quantity of bile and pus escaped; and, a week later, a probe could be passed through the wound three inches deep into a cavity. The wound healed rapidly. The second case was that of a woman aged 50, a rheumatic subject. She had been seized a year before treatment with a violent pain in the right hypochrondriac region. Local sensitiveness on pressure continued, notwithstanding frequent blistering and leeching. A second acute attack supervening, an incision was made over the tender spot in the hypochondrium; an abscess-cavity was thus opened, and fifty gall-stones discharged, their combined weight being one hundred and thirty grains.

Poulticing, as applied before the operation, was continued, and the wound was washed out thoroughly every six hours. A drainage tube was kept in the wound for eight days. After a week of continued convalescence, the patient completely lost her appetite, which was restored by the use of the wine of Mariana, which appears to contain coca. Recovery was perfect. Throughout the course of this case jaundice appears to have been entirely absent. Extirpation of the gall-bladder was recommended by Langenbuch at the Congress of German Surgeons last year, and has been undertaken in three cases with the view of preventing the repeated accumulation of gall-stones. The first operation gave a satisfactory result. In the second case, no stones were found, but the gall-bladder was much thickened and inflamed; the patient was cured, and there was no return of the pain which was felt before the operation. The third case was that of a woman, aged 34, who had suffered for about a year from violent hepatic colics; the pain had become continuous, and the patient was unable to work. A hard and painful tumour could be felt in the region of the gall-bladder; an incision was made, and the gall-bladder was found much thickened and contracted around two large calculi; the whole sac was extirpated, and a complete recovery ensued. Langenbuch advises to begin by detaching the gall-bladder from the liver, and then to tie the cystic duct.

Iodoform in Chronic Cystitis.—Dr. David Prince gives (*St. Louis Medical and Surgical Journal*) the result of his treatment of cystitis by iodoform. Reasoning from the fact that iodoform had a sedative effect on irritable surfaces, he decided to apply it internally to the inflamed bladder. Starch was used as the vehicle, one drachm and a quarter of iodoform being ground with one drachm and a half of starch, and mixed with eight ounces of water. Three ounces of this were used as an injection. The result was satisfactory; obstinate cases of chronic cystitis, it is stated, yielded to this treatment. Dr. Prince suggests that the treatment of moderate strictures of the urethra, accompanied by vesical inflammation, may be advantageously managed by a precursory treatment with iodoform and starch, after which the treatment by electrolysis and the mechanical means for dilatation may be employed. It is anticipated, from this experience, that the treatment may be employed for gonorrhœa. The employment of pencils or bougies of iodoform in gelatin has been very satisfactory, but their retention cannot be prolonged beyond the first act of micturition. In the employment of the proposed injection, it may be expected that the iodoform will not be completely expelled by the first passage of urine, on account of the adhesion of the heavy crystals of iodoform to the mucous membrane.

Contagiousness of Phthisis.—The statistics of the large Brompton Hospital for Consumptives, for thirty-six years, with regard to the resident officials, compiled by Dr. F. Williams (*Lancet*), show that of four

resident medical officers, one of whom had served twenty-five years, none had any lung disease; of six matrons, none were consumptive; of 150 resident clinical assistants, eight became consumptive and five died, but in only one was the disease developed during residence at the hospital. Since 1867, of 101 nurses, only one died from phthisis, and that after leaving the hospital. Before 1867, six died, three of these of phthisis, but only one became so whilst resident, and she had a consumptive sister. She died thirteen years after first joining the hospital, but was not there the whole time. Of thirty-two gallery maids since 1867, none developed phthisis whilst at the hospital. Of twenty house porters, five died, but none of consumption. Non-residents: Of nine secretaries, three were threatened with lung disease, but recovered. Of twenty-two dispensers, seven died, three of phthisis, one while at the hospital. Of four chaplains, three died, none of phthisis. Of twenty-nine physicians and assistant physicians, eight died, none of phthisis. At the Chest Hospital, Victoria Park, there have been five resident medical officers during about the last fifteen years; all are alive and well. Two matrons, neither consumptive. There were two clinical assistants appointed every three months; none known to have developed the disease at the hospital. One nurse out of fifty or sixty in the last few years became consumptive while at the hospital, and she died after a year's illness.

Arsenic in a Human Body.—The *Medico-Legal Journal* of September last contains an interesting account, taken from the *American Chemical Journal*, of the critical examination of nearly one-half of the entire muscle and bony tissue of Jennie Cramer, disinterred six months after burial, the object being to ascertain the actual amount of arsenic in the whole body, and to gather all the facts possible relative to the distribution of arsenic in the corpse. The case of the woman Cramer has given rise in the United States to much comment, and the public mind has been left in great doubt concerning it. The body was found floating in the shallow water of a sandy beach. It bore no evidence of having been long in the water, and a necropsy made at the time failed to reveal the cause of death. Into the methods of analysis employed we need not enter. The quantitative results are given with great exactness, and in minute detail. The summary is as follows:

	Total weight. *Lbs.*	*oz.*	*Total* AS_2O_3. *Grains.*
Left arm	2	11¼	.094
Right leg, except thigh bone	10	4½	.118
Thigh bone	0	7	—
Transverse section	8	15½	.186
Muscle from breast	1	2¼	.098
" " back	1	6	.356
	24	14½	.852

The entire body, without the internal organs, weighed 57 lbs.; thus the arsenious acid found was in the proportion of 1.95 grain for the

entire muscular and bony tissue. By another calculation it was estimated that the amount of arsenic present in the whole body at the time of death, calculated as arsenious oxide, was 3.12 grains. The analysis showed an uneven distribution of the arsenic from none, or very little, in the bones, up to a quarter of a grain in the muscle of the back, and a greater amount in the larger vessels and organs of the body, which fact Prof. Chittenden claims as clearly indicative that the arsenic was taken but a short time before death. He also asserts that in chronic poisoning, or when the arsenic has been in the body a considerable time before death, the kidneys indicate this clearly; while in the case of Jennie Cramer the amount of arsenic in both kidneys was only 0.03 grain, while there was nearly three times as much in the tongue and throat, a fact which, as he says, conclusively shows that this was not such a case, but that the poison must have been taken shortly before death. Again, it has been asserted that the presence or absence of arsenic in the brain is an index as to whether the poison was introduced into the body before or after death. By no ordinary process of diffusion, within a limited time, could arsenic pass from the alimentary canal to the brain. But, on the other hand, in cases of poisoning by arsenious acid, the absence of arsenic in detectable quantities in the brain, as Prof. Chittenden points out, in nowise proves that the poison was not taken before death. For, as E. Ludwig has shown, in poisoning by arsenious acid, the bones and the brain contain but mere traces of the poison, while the liver, as a rule, contains most arsenic. In the case of the woman Cramer, one-third of the brain was found to contain 0.025 grain of arsenic, or in the proportion of 0.34 grain to 1 lb. of brain and the alcohol in which it was mixed when delivered for analysis. Hence the arsenic was in a form readily soluble and diffusible. The facts as regards the brain are not in favor of the view that the poison had been administered to her shortly before death. The whole paper is well worthy of the consideration of toxicologists, who can appreciate the magnitude and difficulty of the task which Prof. Chittenden undertook.

ORIGINAL TRANSLATIONS.

THE GRAVES-BASEDOW DISEASE AND EXOPHTHALMIC GOITRES. By PAUL LE GENDRE. Translated from *L'Union Médicale*, by H. McS. GAMBLE, M.D., Moorefield, West Va.

There is a predilection in our days for a revision of the nosological table which has been bequeathed to us by former generations.

A great number of pathological states, considered formerly as independent entities, have been subjected to analysis. More than one disease, which in the nomenclature of the past enjoyed a distinct place among the various morbid

actions, has not been able to bear contemporaneous criticism, and has seen its individuality vanish; it has been compelled to come down to the state of a simple symptomatic complexus, susceptible of being associated with different causes.

We will not stop here to inquire to whom, in historical justice, it is proper to attribute the paternity of the disease designated in the greater part of works on pathology under the name of exophthalmic goitre. Whether its first describer was Parry (1825), as M. Vulpian believes, or Pauli of Hanau (1837), or Henry Marsh (1841), as M. Tapret will have it; custom—*quem penes arbitrium est*—has indissolubly associated with it two other names, and, just as progressive muscular atrophy is the disease of Duchenne-Aran, so will exophthalmic goitre remain the *disease of Graves-Basedow*. Is it, however, really a disease? Under this title, religiously preserved, might not different things have been classed—sometimes a neurosis, sometimes the syndrome characteristic of a local compression? This is what the examination of some recent publications will enlighten us upon:

1. The classical description of the disease of Graves-Basedow comprised three cardinal symptoms: goitre, exophthalmia, and palpitations of the heart; around this fundamental triad gravitated a cortège of very varied phenomena, called accessory disorders of the disposition of the digestive functions, of sensibility, of menstruation, etc., "all these somewhat incongruous signs being connected with one another by the nervous system, which is their common foundation,' and by the single fundamental disease of which they are the manifestation" (Grasset).

But it has been known for a long time that the classical schéma is far from being applicable to all clinical cases. In order to preserve to the traditional triad its theoretical personality, it has been necessary, so to speak, to enlarge the signification of each one of its terms; thus, goitre has become, in the case in question, the synonym of enlargement of the thyroid body, apart from the nature of this increase in volume; under the head of exophthalmia have been described divers abnormal states of the ocular apparatus, and the palpitations are but one of the modalities of the cardio-vascular disorders observed in this affection.

In fact, if we analyze the descriptions published under the names of exophthalmic goitre, disease of Graves or of Basedow, we see that goitre is therein described with the most dissimilar characters. Many authors have seen, like Trousseau, in the tumefaction of the thyroid body the result of a considerable hyperæmia and of a vascular ectasia, often intermittent, accompanying or following crises of palpitations, of the emotions or of the menstrual period; to these persistent congestive troubles has been seen to succeed a hyperplasia or a sclerous atrophy of the gland. But, in other and quite numerous cases, the tumefaction of the thyroid, produced in a continuous, regular manner without crises, was a neoplasm (fibro-sarcoma, fasciculated sarcoma, cystic tumor), and almost always, in those cases, it seems that the appearance of the thyroid tumor had preceded that of the other signs of the triad. The disorders of the ocular apparatus are not always and solely exophthalmic. De Graefe has admitted

one sign, the want of consensus between the movement of the eyelid and the elevation or depression of the globe of the eye; this phenomenon seemed to him so pathognomonic that he diagnosed, says Eulenberg, the neurosis of Graves in a patient who presented only this symptom and palpitations. Whilst experimental exophthalmia in animals is accompanied generally by dilatation of the pupil, and pupillary changes are observed in the case of functional disturbance of the cervical sympathetic secondary to a tumor of the neck, Eulenberg does not admit any pupillary modification in the disease of Basedow pure and simple. Finally, besides the purely functional disturbances of the cardio-vascular apparatus, such as paroxysms of palpitation, the frequency of the pulsations and of the throbbings of the heart (tachycardia), some descriptions speak of dilatation of the cavities of the heart, and of lesions of the orifices, as tricuspid insufficiency.

In order to continue to preserve the facts observed in harmony with the primitive description, some have even been brought to admit irregular cases in which was wanting something of the three grand phenomena; these, little by little, have been seen to disappear, two of the symptoms considered as characteristic by Graves and Basedow "to such a degree that it is probable," said a critic, "that these authors would not have recognized the disease which they have described to us."

The modifications offered to-day in the symptomatology of the disease of Basedow consist then in that a less degree of importance is attached to certain classical signs, and that some signs overlooked heretofore or left in the shade have been placed in the front rank.

2. The necessity of modifying the conception of the disease and of extending its symptomatic limit seems to us to follow from the two excellent studies published by our friends, G. Ballet and P. Marie, at the suggestion of their master, Prof. Charcot.

M. Marie has demonstrated that the *trembling*, described for the first time in France by M. Charcot in 1862, afterwards noticed by different authors, and which notably formed the subject of a work read by M. Guineau de Mussey before the Société de Thérapeutique, constitutes one of the most constant symptoms of the disease of Basedow, so that it even allows its irregular forms to be diagnosed.

But, if it is nearly constant, its intensity is most variable; sometimes it predominates to such a degree over the other symptoms that it alone attracts the attention of the patient; sometimes the physician is obliged to seek for it by placing the patient under certain conditions that render the observation of it more easy. In well-accentuated cases, the whole body is agitated by a continual "tremulation;" if the patient is standing, the rapid oscillations by which he is excited seem to take place in a vertical direction; if he is undressed and at rest, one sees that almost all the muscles of the extremities and of the trunk are the seat of *fibrillary movements*, which are absent from the face and the tongue (Fréréol); it is like a palpitation of the whole surface of the body.

The upper extremities present little rapid oscillations, especially visible at the extremity, and to a certain degree comparable to alcoholic trembling. The con-

sequence may be a considerable embarrassment in the act of writing or of sewing. The trembling of the lower limbs appears sometimes only when the patient is seated, the feet resting upon the toes upon the floor. It may become sufficiently intense to render walking uncertain and staggering.

This trembling, studied by aid of the myographic drum (tambour), furnishes a tracing, the character of which permits the diagnosis from other tremblings. The rhythm of the oscillations is uniform in a horizontal direction. The vertical oscillations, gradually increasing in extent, then regularly decreasing, give to the tracing a fusiform aspect.

The number of the oscillations varies from eight to nine and a half per second, whilst in paralysis, agitans, and senile trembling, it is, on an average, five per second.

The tracing obtained by means of a ball applied to the palm of the hand gives a line but slightly wavy and almost rectilinear in the disease of Basedow, whilst, in general paralysis and in alcoholism, the tracing taken under the same conditions is very jerky, and is composed of a series of multiple changes of direction. M. Marie concludes that, in the disease of Basedow, the trembling of the fingers is due to the succussions of the other segments of the upper limb, whilst in these other affections the muscles of the fingers are more particularly attacked with the trembling.

Whatever may be the value of these characters, so minutely studied, and rather delicate to render any clinical service, it follows none the less, according to M. Marie, that the presence isolated or simultaneous of goitre and of exophthalmia is by no means necessary to diagnosticate the disease of Basedow. It should be thought of each time that in a patient one observes a permanent tachycardia and this trembling, without notable increase of temperature. Finally, there exists a certain number of other important symptoms to be taken into consideration, such as the paroxysmal diarrhœa without colic, the sweats general or local, the angina pectoris, the boulimia, the insomnia with subjective sensation of heat, the spasmodic cough without expectoration or physical signs; finally, certain cutaneous manifestations, pigmentary spots, vitiligo, eruptions of urticaria, etc.

As far as concerns angina pectoris, which has sometimes shown itself in exophthalmic goitre, M. Henri Huchard, whilst ranking it among the cases of angina pectoris of nervous origin, and admitting that the disease of Basedow is a general neurosis, asks himself if the anginous paroxysms in this disease are really of central origin, and if their pathogenic interpretation ought not rather to be sought for sometimes in the sudden and passing dilatations of the heart, in the neuralgic symptoms or the vaso-motor disorders, sometimes even in the gastro-intestinal derangements in consequence of their reaction upon the cardiac muscle. M. Gilbert Ballet has especially sought to throw light upon certain disorders, some rare, others more common, which necessarily involve a morbid condition of the central nervous system, whether they are made to depend upon the general cause which engenders exophthalmic goitre, or are subordinate to the disorders of the cerebral circulation consecutive to the cardiac hyperkinesia. We have to deal sometimes with phenomena of a *convulsive order* connected with

the epileptic or epileptiform type, sometimes with manifestations of a *paralytic order* (hemiplegia, paraplegia) with *disorders of sensation*. Besides, M. Ballet insists upon the modifications of the urinary secretion long ago described in certain cases, but more frequent, it seems, than was supposed: *albuminuria*, *glycosuria*, and *polyuria*, appear to indicate a disturbance of the bulbo-protuberantial innervation. M. Panas had already defended the bulbo-protuberantial origin of exophthalmic goitre, and Filehne (d'Erlangen) has succeeded in reproducing the triad of Basedow by experimental lesions of the restiform bodies.

M. Ballet finds himself forced to conclude that "the disease of Graves seems to be nothing else than one of the numerous symptomatic modalities by which the nervous diathesis betrays itself, a symptomatic modality which sometimes presents itself in an isolated state, sometimes combined with other manifestations (epilepsy, hysteria, chorea). There might be room, however, to inquire whether certain bulbo-protuberantial lesions are not of a nature to determine the symptomatic complexus of Basedow. It might then be with the exophthalmic goitre complexus as with the complexus of hemianasthesia, for example, which, though most frequently one of the common manifestations of hysteria, nevertheless betrays in some cases a material localized alteration.

3. Must it be said that this conclusion is applicable to all the cases published under the name of exophthalmic goitre? This seems difficult to admit after reading the interesting thesis of M. Henri Bénard, who has applied himself to elucidating the pathogeny of this disease, and who, after having passed in review the numerous theories proposed to explain it, has arrived at an eclectic solution.

The pathogenic theories relative to exophthalmic goitre are divided into three groups:

Sometimes the symptoms of exophthalmic goitre have been explained by cardio-vascular theories.

The heart has been accused, notably by Graves, by Stokes, who incriminated the dilatation of its cavities, by Luton, who attributed to tricuspid insufficiency the origin of the vascular troubles capable of producing the different forms of the syndrome.

The opinion which sees in anæmia the cause of all the symptoms of the exophthalmic cachexia boasts of the names of Basedow, Beau and Bouillaud.

Sometimes exophthalmic goitre has been explained by nervous theories.

To some, paralysis of the pneumogastric (G. Sée), to others, the lesions of the *great sympathetic* (Trousseau) have appeared to be the key of the symptoms.

Since this last explanation has been shaken by M. Vulpian, it is in the superior nerve centres, *the cord or the bulb*, that the cause of the phenomena observed is sought for, the vasomotor system being only "the secondary instrument of a more elevated impulsion."

Finally, M. Peter thought that he had found in the brain itself the point of departure of the disease, resting this opinion upon the psychical disorders which, according to M. Ball, are presented sometimes under the form of anxious melancholy, sometimes under the form of maniacal agitation.

But if it is true that, in many cases, the syndrome of Graves-Basedow may be

considered as a complex neurosis, vaso-motor, cerebro-bulbar or bulbo-protuberantial, it will remain none the less necessary to take account of cases in which surgical ablation of a goitre has caused to disappear the symptoms of tachycardia, of exophthalmia, and of other nervous disorders (malaise, insomnia, change of temper), very analogous, if not absolutely similar to those of the pure disease of Basedow.

It is to these cases, says M. Bénard, that the third grand pathogenic theory is adapted, that which makes all the symptoms of compression of the organs of the neck depend upon the goitre.

The thyroidean tumor may act, then, either by producing lesions of the great sympathetic, by impairing the pneumogastric, or by compressing the jugular veins. In every case, then, the tumor precedes the other symptoms, and, in the cases cited by M. Bénard, the two tumors extirpated by his teacher, M. Tillaux, were neoplasms, and differed, consequently, from the vascular goitre which in general characterizes the true disease of Basedow.

M. Le Dentu had already admitted a medical exophthalmic goitre, and another surgical; for the theory of compression evidently could not explain the irregular cases of exophthalmic goitre, that is to say, the irregular cases of the disease of Basedow without goitre.

One might object to the theory of compression that very voluminous goitres may exist without producing tachycardia, exophthalmia, etc., but doubtless the production of these symptoms depends much less upon the volume of the tumor than upon its connections, more or less intimate with the organs of the neck, and with the vasculo-nervous bundle.

To sum up, we believe that at the present time there ought to be a sorting of the descriptions of cases which exist in science under the names of disease of Basedow and of exophthalmic goitre.

Some are evidently of a medical order; the triad is more or less complete, but the presence, isolated or simultaneous, of exophthalmia and of goitre is by no means necessary in order to characterize the affection, for which it is convenient to preserve the name of *Graves-Basedow Disease*, whatever opinion one may have as to its nature. Finally, there exist reliable, authentic histories of goitre, or rather of thyroid tumors, accompanied or followed by the syndrome, tachycardia, exophthalmia, etc., and in which extirpation of the tumor seems to succeed in curing or amending the other symptoms. Is it not to these cases alone that truly belongs the appellation of *exophthalmic goitres?*

ORIGINAL ABSTRACTS.

(BY J. G. KIERNAN, M.D., CHICAGO, ILL.)

UNGRATIFIED SEXUAL APPETITE A CAUSE OF FEMALE DISEASE.—Dr. Gillette (*New York Medical Journal*, July 14, 1883) cites the following cases: A widow consulted the doctor for constant neuralgic pains in the pelvic regions, by which her life had been rendered miserable. She gave a history of two or three attacks of pelvic cellulitis some time previously, for which she had been treated by sev-

eral physicians. All the treatment, however, had failed to relieve her of her persistent pain in either ovarian region. Her general appearance was that of a woman in good health and well nourished. Her menstruation, she said, was painful and irregular as to time, but pretty constant as to quantity. This had been her habit through life. She had never been pregnant. Upon examination, the pelvic organs were extremely sensitive, and there was considerable pain over either ovarian region upon pressure. There was so much adipose tissue that it was impossible to determine through the abdominal wall whether there was any tubal enlargement or not, and through the pelvic region it was utterly impossible to make any satisfactory examination of the condition. From the history the case seemed to be one of pyo- or hydro-salpingitis; and, as a last resort, Tait's operation was recommended. She stated that, if her sufferings should continue as they had, she would not hesitate, as she was perfectly miserable as she was. During the summer, however, she took a trip to Europe, and while on the steamer met a gentleman to whom she became engaged, and, on her return from Europe, they were married. From that time all pain disappeared entirely, and, so far as she knew or the doctor could ascertain, she was as well as any woman he had ever met. There was not the least degree of pain on examination, and the introduction of the probe into the uterus, which she could not tolerate previously, and which indeed at one time almost lighted up a cellulitis, was borne with perfect impunity. There was no tenderness over the ovaries, and there was no point of tenderness to be elicited anywhere, and nothing to indicate that there could be, by any possibility, any disease whatever of the pelvic organs. This case, undoubtedly, was one not at all uncommon among widows—simply one of reflex irritation consequent upon ungratified sexual appetite. The lady herself, who was a very intelligent woman, did not hesitate to join the doctor in this his last diagnosis of her condition. Another of the cases to which reference had been made, and which would seem to call for Battey's or Tait's operation, was that of a woman who had been a mistress, but who was now under a certain religious restraint. She had changed her sexual relations, her pelvic symptoms had developed, and she had hystero-epilepsy in addition to pains referable to the pelvis and ovarian regions. No enlargement of the tubes had been demonstrated in her case, but all her other several sexual organs, so far as they could be examined, were in a highly hyperæsthetic condition, and at times apparently almost in a state of inflammation. In the opinion of the speaker, this case was almost identical in many of its features with the other. The patient had formerly indulged in sexual excesses. She had been seen by several physicians, and it was a question with them whether an operation for the removal of the ovaries or tubes was justifiable or not. These cases were either or both of them typical of cases heretofore operated upon according to Battey's method, and there could be no question, probably, that, if the operation of Battey had been performed, and the ovaries removed, all pelvic symptoms might have disappeared as a matter of supposed natural consequence; but the fact that one of them had been cured by the resumption of a normal function was very interesting; and probably in many instances there should be a pause before recommending the operation to young or unmarried women on this very account. He knew that reflex irritation from the male sexual organs produced strange phenomena, and the late Dr. Van Buren had attributed many of the nervous conditions and perturbations of men to ungratified sexual desire. There could be no question about it, that this ungratified sexual appetite created a most unfortunate series of phenomena in both sexes, and more particularly in the female than in the male; consequently, it must always be estimated in considering such a serious operation as Battey's or Tait's. The modesty and native secretiveness of women would rarely assist in such cases by a direct avowal or confession, and in all cases every effort ought

to be used to determine the exact psychological state of unmarried women who were willing to submit to the severest surgical alternative that can be presented to them for relief from pelvic pain or distress. These cases illustrate not the point raised by Dr. G., but that the psychical influence of oophorectomy is very probably the chief.

Oöphorectomy in Pelvic Neuralgiæ. — Dr. Mundé (*New York Medical Journal*, July 14, 1883) cites the following case: A widow, thirty-seven years of age, had been for about eight months suffering from neuralgic pains in the pelvic region, extending down the right thigh, and from hysterical symptoms. At the end of that time she came under Dr. Mundé's observation. For about two months it was hoped that some relief might be given by other means than the administration of opium, which she had been taking in considerable quantity. The only pathological condition discovered was what was believed to be thickening of the broad ligaments. There was a history of pelvic cellulitis. The patient six years before had suffered in a similar manner, and Dr. Schramm, of Dresden, amputated the cervix for, as she believed, enlargement of the womb. The operation was followed by relief of two years' duration. The only means which seemed to offer any prospect of relief on the present occasion was Battey's operation, with or without removal of the tubes, and it was doubted whether, without more definite pathological indications, it was justifiable to resort to this, but Dr. Mundé finally yielded to the patient's wishes, and performed the operation. Both ovaries with their tubes were removed. The right one was free, the left adherent, but no diseased condition was apparent. During the first twenty-four hours after the operation the patient was very irritable, and a large amount of Magendie's solution was required to keep her quiet. The temperature on the second day rose to 103° Fahr., but was controlled by cold water passed through a coil of rubber tubing placed upon the abdomen. Within a few days the patient recovered entirely from the operation, the pain of which she had complained before ceased at the end of three weeks, all narcotics were stopped, and it seemed that an excellent result was likely to be established permanently. Soon afterward, however, the old symptoms of neuralgia and hysteria returned, and were now worse than formerly. It is clearly evident that this operation, like other surgical procedures would have done, exerted in this hysterical female a temporarily beneficial influence from the impression it made on the patient's mind.

Knee-Joint Disease from Patellar Necrosis.—Dr. G. A. Wright (*Lancet*, April 7, 1883) reports two cases of knee-joint disease of this kind. The first patient, an eight-year-old boy, six months before coming under observation, fell and injured his knee; one month later the joint became swollen, red, and tender. Under treatment he almost recovered, but the knee was again injured, and inflammation occurred which resulted in an abscess. The right knee was considerably swollen, the swelling being almost entirely limited to the tissues around the joint, within which but little effusion was apparent. Three sinuses on the front and side of the knee freely communicated. These were laid open. After the joint became more swollen and tender, free incisions were made into it. The synovial membrane was swollen, but the cartilage seemed healthy, except one circular spot, about half an inch in diameter, in the centre of the patella, where a perforation existed which ran completely through the bone and communicated freely with the openings on the front of the knee. The wounds were treated antiseptically; some burrowing of pus took place. After some months the patient was discharged with an immovable apparatus, and did not return. The second patient, a seven-year-old boy, ten weeks before being seen received a blow upon the left knee, and the joint became painful and weak.

There seems not to have been any acute inflammation. There was no discharge until five days before he came to the hospital. The left knee was swollen and fluctuating, the swelling mapping out the synovial sac. The skin was somewhat red and the veins turgid, but there was little tenderness. A sinus existed over the front of the ligamentum patellæ which was found to lead to the upper surface of the patella. On laying the track open, a damson-stone-size sequestrum was found loose in the centre of the bone, on removing which a perforation into the joint was seen.

Fracture of the Patella.—Lister (*Medical Times and Gazette*) reports seven cases of patella fracture, in which the fragments were cut down upon and wired together. A longitudinal incision was made over the middle of the patella, knee joint was cleaned of any blood clots which had collected, and the broken surfaces of the patella were freshened, which were then wired together. In this manner bony union is secured. The cases were recent, and those in which some time had elapsed since the fracture, and where there was fibrous union, with a greater or less interval between the fragments. The recent cases are the more easy and satisfactory to treat ; there is no difficulty in approximating the fragments after the blood clot and effused matter have been sponged out of the joint. In the older cases the fragments are often widely separated ; possibly there is contraction of the quadriceps tendon, which must be divided ; or the fragments of bone may be atrophied. It would be impossible to speak too highly of the results obtained ; bony union of the fragments, with almost perfect movement of the joint, had resulted in every case.

Sulphurous Acid in Zymotic Diseases.—Dr. D. A. Sheffield (*Journal of the American Medical Association*) says that a course of experimentation with this drug, extending through a period of more than twenty years, in almost every variety of zymotic disease has convinced him that its power over this variety of ailments has not been recognized and appreciated by the majority of the profession. That it is capable of modifying both the violence and duration of typhoid fever has been demonstrated to himself and his patients so many times that without the drug he should approach the treatment of a case of that disease with considerable trepidation. Given in moderate doses during the period of dry skin and parched brown tongue, its effects are often magical. This disease is but one of the many in which sulphurous acid is a remedy and a prophylactic. The acute infectious diseases are all modified, aborted, or wholly prevented by its use. While recognizing the latitude of the above declaration, the facts and proofs of its truth, in Dr Sheffield's possession, fully justify it. So fully is he persuaded of the immense value of this drug, that it is his intention to submit to the profession the results of twenty years of critical study of it. Most of the experiments have been made with soda bi-sulphite, though in a few cases a solution of sulphurous acid diluted with glycerine has been employed, giving equally as good results, but not as well tolerated by the patient. Let those who wish to demonstrate its utility use a saturated solution of soda bi-sulphite in water, giving one teaspoonful every two or three hours until the system is brought fully under the influence of the drug ; afterward one dose every six hours will be sufficient to maintain its effect. It will be remembered that the results of Dr. Abodie, of Greece (Gaillard's Medical Journal, vol. xxxv.) tend to confirm these opinions of Dr. Sheffield.

Spinal Caries in Tailoresses.—Dr. J. Hopkins (*Lancet*, March 31, 1884) reports the following cases of spinal caries in tailoresses. The first patient, sixty-nine years of age, suddenly lost the use of both lower limbs ; previously she had complained only of a feeling of dejection and indisposition to work.

There were increased reflex movements. The seventh dorsal vertebra was slightly prominent, pains occasionally shot down the front of the thighs, the bladder was distended, and the bowels were confined. The prominence of the vertebra became more marked. The patient died five weeks after the onset of the paralysis. On autopsy, the bodies of the seventh and eighth dorsal vertebræ were found carious. The spinal cord was compressed by abscesses pressing backward. The second case, a tailoress, forty-four years of age, when a child, was delicate, came under observation with a large abscess over the left thoracic parietes. For five years she had been ill, but had no pain. Four months ago a swelling appeared upon the left side; this was opened, and a piece of dead bone came away. One month later the patient began to experience pain in the right shoulder; later, pain and stiffness of the neck; then retention of urine and paralysis of the lower extremities; and finally she died from dyspnœa. On autopsy, the outer half of the right transverse process of the first dorsal vertebra was found broken off and reunited by firm fibrous bands, both to the part from which it had been broken and to the posterior transverse process of the dislocated seventh cervical. Caries had destroyed nearly the whole body of the first dorsal and the under-surface of the seventh cervical vertebra. An abscess had passed between the bodies and the posterior common ligament, thus compressing the cord. The third case was a tailoress, aged thirty-four; when a child had had an abscess and necrosis. When she came under observation, she had lost power over the lower limbs, and gave a history of caries of the vertebra, seventh, eighth, and ninth dorsal. She died from exhaustion. No autopsy. That spinal caries is an occupation disease does not follow from these cases which are too few to be of value.

Treatment of Prolapsus Ani in the Child.—Dr. J. H. Jenkins (*Journal of the American Medical Association*, September, 1, 1883) says, in recent cases of prolapsus ani in young children, from the age of six months up to six years, the following plan of treatment has been adopted by him with uniform success: After each evacuation of the bowels, and when prolapsus has taken place, the nurse is instructed to carefully reduce the prolapsus, and to immediately inject into the rectum from two to four ounces of cold water, containing from 20 drops to half a drachm of the fl. ex. hammamelis. This is continued from day to day until the parts are restored to health, which usually requires from one to four weeks. During treatment, if the bowels become constipated they should be regulated by an occasional dose of castor oil or some other mild laxative, and, in the meantime, all exciting causes must be removed, and the patient's general health carefully looked after.

Iodoform in Cystitis.—Dr. Prince (*St. Louis Medical and Surgical Journal*, November, 1883) claims good results in the treatment of chronic cystitis from the use of iodoform. A soft catheter is introduced into the bladder, which is thus thoroughly emptied, if there is any residual urine which the patient is unable to void voluntarily. Then fifteen cubic centimetres of the following preparation are to be injected: Five grams of iodoform are ground with twenty-five grams of starch, and the whole is "moistened" with forty cubic centimetres of water. The mixture is injected daily and allowed to remain. The medicament is not entirely expelled at the first subsequent passage of urine, as the heavy crystals of iodoform adhere to the mucous membrane. Starch was the substance chosen for incorporation with the iodoform, because of its freedom from irritant properties. This treatment speedily allays the irritation of the vesical mucous membrane, and with it the painful reflex contraction of the muscular coat of the bladder. The relief of this reflex contraction greatly increases the available capacity of the bladder. A gentleman

who had suffered greatly for several years had no pain after the first introduction of the iodoform. He thought after four days' treatment that the capacity of his bladder had been doubled. Dr. Prince thinks that the same treatment will be beneficial in gonorrhœa. He thinks it will prove better than the use of pencils or bougies of iodoform and gelatin, because the iodoform, as he employs it, adheres to the urethral mucous membrane, and its action is therefore kept up for sometime after the injection has been allowed to escape. The action of iodoform when used in pencils or bougies can last only while they are retained. Dr. Prince also suggests that the treatment of moderate strictures of the urethra, accompanied by vesical inflammation, may be advantageously preceded by the use of iodoform and starch. Mechanical dilatation, electrolysis, or other measures, would, of course, be required afterward.

SELECTIONS.

Treatment of Aggravated Hysteria and Certain Allied Forms of Neurosthenic Disease.

Dr. W. S. Playfair, of London, Eng., concludes an interesting and quite exhaustive article on this subject as follows:

The principal elements in the systematic treatment of these cases are:

1. The removal of the patient from unhealthy home influences, and placing her at absolute rest.

2. The production of muscular waste and the consequent possibility of assimilating food by what have been called "mechanical tonics;" viz.: prolonged movement and massage of the muscles by a trained shampooer, and muscular contractions produced by electricity.

3. Supplying the waste so produced by regular and excessive feeding, so that the whole system, and the nervous system in particular, shall be nourished in spite of the patient.

On each of these, he says, I shall offer one or two brief observations:

1. The removal of the patient from her home surroundings, and her complete isolation in lodgings, with only a nurse in attendance, is a matter of paramount importance. This is a point on which I am most anxious to lay stress, since it is the great crux to the patient and her friends; and constant appeals are made to modify this, which I look upon as an absolute *sine quâ non*. I attribute much of the success which I have been fortunate enough to obtain in my cases to a rigid adherence to this rule. In almost every instance of failure in the hands of others, of which I have heard, some modification in this rule has been agreed to, in deference to the wishes of the friends; as, for example, treating the case in one room by herself in her own house, or in admitting the occasional visits of some relatives or friends. While, however, the patient is to be rigidly secluded, it is incumbent to secure the attendance of a judicious nurse, with sufficient intelligence and education to form an agreeable companion. To shut up a refined and intellectual woman for six weeks with a coarse-minded stupid nurse, can only lead to failure. I have had more difficulty

in obtaining suitable nurses, sufficiently firm to ensure the directions being carried out, and yet not over-harsh and unsympathetic, than in any other part of the treatment. Whenever my case is not doing well, I instantly change the nurse—often with the happiest results. In addition to the isolation, the patient is put at once to bed, to secure absolute rest. In many cases she is already bed-ridden; in others there has been a weary protracted effort, and the complete repose is in itself a great gain and relief.

2. Under the second head comes systematic muscular movement, having for its object the production of tissue waste. This is administered by a trained rubber, and here again is a great practical difficulty. The so-called professional rubbers are, in my experience, worse than useless, and I have had to teach *de novo* a sufficient number of strong, muscular young women; and the aptitude for the work I find to be very far from common, since a large proportion of those I have tried have turned out quite unsuited for it. I cannot attempt any description of this process. I need only say that it consists in systematic and thorough kneading and movements of the whole muscular system for about three hours daily, the result of which at first is to produce great fatigue, and subsequently a pleasant sense of lassitude. Subsidiary to this is the use of the faradic current for about ten to twenty minutes, twice daily, by which all the muscles are thrown into strong contraction, and the cutaneous circulation is rendered excessively active. The two combined produce a large amount of muscular waste, which is supplied by excessive feeding; and in consequence of the increased assimilation and improved nutrition, we have the enormous gain in weight and size which one sees in these cases, it being quite a common thing for a patient to put on from one to two stones in weight in the course of five to six weeks. The feeding, at regular intervals, constitutes a large part of the nurse's work. At first from three to five ounces of milk are given every few hours, and for the first few days the patient is kept on an exclusive milk diet. By this means dyspeptic symptoms are relieved, and the patient is prepared for the assimilation of other food. This is added by degrees, *pari passu* with the production of muscular waste by massage, which is commenced on the third or fourth day. By about the tenth day the patient is shampooed for an hour and a half, twice daily, and by this time is always able to take an amount of food that would appear almost preposterous, did not one find by experience how perfectly it is assimilated, and how rapidly flesh is put on. It is the usual thing for patients to take, when full diet is reached, in addition to two quarts of milk daily, three full meals, viz.: breakfast, consisting of a plate of porridge and cream, fish or bacon, toast and tea, coffee and cocoa; a luncheon, at 1 P.M., of fish, cutlets or joints, and a sweet, such as stewed fruit and cream, or a milky pudding; dinner, at 7 P.M., consisting of soup, fish, joints, and sweets; and, in addition, a cup of raw meat soup at 7 A.M. and 11 P.M. It is really very rare to find the slightest inconvenience result from this apparently enormous dietary. Should there be an occasional attack of dyspepsia, it is at once relieved by keeping the patient for four-and-twenty hours on milk alone.

Such is a brief outline of the method to which I am here to direct your attention. As to the results, I have already published several remarkable illus-

trative cases, so that it is perhaps not necessary to do much more in this direction. I may say, on looking back at my cases, that the only ones with which I have had any reason to be disappointed, are those in which the primary selection has been bad; and in the few in which the results were not thoroughly satisfactory, I had doubts as to their suitability for the treatment, which I expressed beforehand. These include one case of chronic ovarian disease, and one of bad anteflexion with fibroid enlargement of the uterus, in both of which the local disease prevented any really beneficial results. In a third I had to stop the treatment in a week, in consequence of cardiac mischief; two others were cases of positive mental disease, and in one case there was true epilepsy. In my other cases the results have been all that could be wished, and in many of them the patients have been restored to perfect health after having been helpless bed-ridden invalids for years; in one case twenty-three without ever putting a foot to the ground, in others sixteen, nine, six, and so on. In two instances my patients were in such a state that it was found absolutely impossible to move them except when anæsthetized, and they were brought to London by the medical men long distances under chloroform, in each case leaving in six weeks perfectly cured.

LECTURES.

INFANT FEEDING. By JOHN M. KEATING, M.D., Visiting Obstetrician to Philadelphia Hospital. Reported by W. A. EDWARDS, M.D., Asst. Dem. Clin. Med. University of Pennsylvania.

It has been my custom for some years, after having brought before the class numerous cases of children's diseases which make our clinic so interesting, to call your attention to an important branch of your life work, infant feeding, a subject that upon superficial thought seems so simple that the majority of medical students are apt to pass it by as pertaining to the nurse and not to the doctor; yet my associations with recent graduates enable me to say that it is the one subject that comes up before them soon after entering their medical career, and often it is not merely a matter which is important for the moment and easily evaded, but becomes either the portal of entrance to a large practice, or the starting point of embarrassments and disappointments which render their arduous duties even more irksome.

I wish distinctly to state that, though I shall dwell at length upon the feeding of infants with prepared food, I do not wish to be understood to underrate the value of mother's milk, or in its stead that of a reliable and well-developed wet-nurse. There are times when a mother cannot and should not nurse her child; a wet-nurse should then be the first thought. Then, again, I may also state, at this point, that a child which has been nursed for a short period can be very much more easily brought up by hand than one who is obliged to be hand-fed from birth.

The great question which has always given rise to so much hesitation and difficulty in its answer is upon what food to place a child. This at times is perplexing; it depends upon various conditions; it depends upon age of child, upon its health, upon residence, country or city, and upon the circumstances of the family. All these should be taken into consideration. Is it to be weaned gradually, or is it necessary that hand-feeding should constitute its only supply? If you attempt to study this matter from your text-books, you will be dazed with the number of suggestions there presented. It is well that you should form in your own mind the regular course to follow in such cases, and avoid the unfortunate way of answering your inquirer, the fond mother or nurse, by saying, "try this," or "try that." It should not be a matter of trial.

Let me say now that milk should form the basis of all preparations of food. It is not necessary for me to show you the difference between cow's and mother's milk. I will refer you to your physiological tables, and also, those of you who read the medical journals of the day, to the interesting investigations of Prof. Leeds and Dr. A. V. Meigs, who have studied this matter with great care.

There have been several ways suggested of preparing the food for infants; one, taking mothers' milk as a guide, and endeavoring to make cow's milk approach the human standard as near as possible by dilution and the addition of sugar of milk. For this purpose Dr. Meigs has suggested the following formula: Order five or six packages of milk sugar, containing seventeen and three-quarter drachms each; the contents of one of these to be dissolved in a pint of water, and each time the child is to be fed let there be mixed together and then warmed three tablespoonfuls of the sugar solution, two of lime water, two of cream and one of milk. This makes about a gill, and as much of it as the child does not take should be thrown out and a fresh mixture made for the next feeding. The solution of sugar should be kept in a cool place and at once thrown away if it sours, as occurs if kept more than a day or two in warm weather. The dry sugar keeps indefinitely, and is easily dissolved in warm water. A pint bottle should be kept for the purpose of containing the solution, to serve also as a measure of the quantity of water to be used with each package dissolved, and also to save further measuring. The milk to be used should be good ordinary cow's milk, and not the very rich milk of Jersey or other high-bred stock, and the cream in the same way should be such as is usually sold in the cities, and not too rich, containing about sixteen or seventeen per cent. of fat. The quantity of this food taken by a new-born infant should be two or three fluid ounces every two hours, and if it thrives it will soon take as much as a gill every two hours.

Then there are the various preparations in the market of the cereals proper, whose use I shall tell you more of in a few moments, and those of the cereals that have undergone change into dextrine and glucose by

malting, and those foods which are composed of milk, either preserved, condensed or prepared in a more solid form. These preparations are expensive, not to be procured in every drug store, and furthermore are somewhat perishable, so I shall talk to you to-day of the "home-made" foods, to which I advise you to adhere for a time.

Let us suppose that you are confronted with a case in which the mother, having nursed her child for some months, finds her milk gone, and it becomes necessary to establish hand-feeding. She tells you that her child no longer receives the amount of nourishment that it should. Convince yourself of this fact before you make any change; take the appearance of child into consideration, examine its muscles to see if they are firm, and judge whether or not it presents a rosy hue of health. Examine the mother's breast, and if you think that a course of tonics, with outdoor exercise or change of food, will increase the supply, by all means have recourse to them before making a change. Remember that the milk does not always remain constantly in the mother's breast, and that frequently those who are able to nourish their children with an abundant supply have, between nursing hours, scarcely any evidence of milk whatever; the application of the child will, however, produce a flow in a few moments.

I give you all these points because frequently mothers wish to wean their children too young, and I firmly believe that encouragement and firmness on the part of the doctor will in very many cases give a child a far better chance in after life. If the child is six months old, or thereabouts, and you find it necessary to establish hand-feeding at once, the following would probably be the best plan to adopt: Order nurse or mother to take a quart of morning's milk which is pure and fresh—better than not from a mixed dairy—and dilute with a half of a pint of water; put on to boil; take of Robinson's prepared barley, which comes in packages, a heaping desertspoonful or tablespoonful; rub this to an even paste with a small quantity of milk; then add to it the milk that is boiling, and stir this for twenty to thirty minutes, letting it boil. This should be strained, and a small quantity, say a teaspoonful, of white sugar added to it, the whole to be placed in the refrigerator for the day. When cool a jelly will be formed. Of this the child should take about four ounces, made fluid by heating, and strained in bottle or by spoon, every three or four hours. The last feeding would for a time be about ten o'clock in the evening; after a few months the child will need nothing after usual bed-time until first meal in the morning, at about seven o'clock.

Barley flour seems to hold a position somewhat neutral as regards action on the intestinal tract. Should the bowels become constipated, or should you desire to change the food, a preparation of oatmeal known as "Bethlehem Oatmeal," can be used in the same way as the prepared barley. The wheat foods may be used in the same way; they are apt to constipate, however.

At times it may be well in preparing the food to mix these various articles, as a child needs a variety in taste as well as a grown person. If a child is younger than six months, of course it will be necessary to add a larger percentage of water and a smaller amount of cereal. I am satisfied, from investigations made last year ("Some Observations on the Salivary Digestion of Starch by Infants." Trans., College of Physicians, Third Series, Vol. VI.), that infants are able in some degree to digest a small quantity of starchy food, and that the starch contained in the above described preparation is not merely useful in preventing the formation of a heavy curd, but that it is also useful in nutrition. I have found the preparation that I have suggested to you applicable in the majority of cases, and especially in those children who are apt to suffer from indigestion, during the summer season, with its unfortunate results. It is also useful when gradual weaning is thought advisable. In such cases the child is nursed from the mother in the early morning; after its bath, say ten A.M., it is to take its bottle or cup of food; nurse again at one or two, a cup of food at six, and again nurse at ten in the evening. As far as condensed milk is concerned, I am satisfied that it is an extremely valuable preparation, but not one upon which it should be attempted to raise a child. It is useful as a bridge to tide over difficulties, and as such can be relied upon, but a child that is brought up on condensed milk alone from an early period is, in my experience, liable to succumb more rapidly to the influence of disorders that other children, either nursed or fed with cow's milk, are able to withstand. Prejudice has frequently interfered with the use of condensed milk, I regret to say. It is certainly nutritious and easy of digestion, and frequently will agree, when properly administered, with a child whose stomach is intolerant of other food. Of the purity of the brand usually used there is no question, and I would advise you to study this matter yourselves, and not throw away a valuable food because many statements are made against it.

It is easy enough to find some form of diet that will nourish a healthy child. The most difficult problem to solve is the food to be administered to an infant who is delicate from birth and cannot nurse, one who is suffering from some form of intestinal catarrh, or one whose digestion has been totally upset by a severe attack of summer complaint.

These are, in fact, the most difficult cases that we have to deal with. In treating such cases we should bear in mind that a child's food should not be made so extremely weak, in order to avoid all irritating qualities, as to make it fail in its object of supplying nutrition, but we must endeavor to make the child's digestive functions meet us half-way, and thereby establish an equilibrium; we can either do this by the administration of those drugs which are known to facilitate digestion, such as the various forms of pepsine or pancreatine, as the case demands, or we should endeavor by tonic influences to bring about a healthy establishment of the functions of those organs whose secretions are needed for the proper digestion of food.

If a child is so weak and exhausted that it will not digest the mildest form of prepared food, and it is impossible to obtain breast milk, for this should be our first thought, it is useless to weaken the condensed milk, or whatever we use, to such a degree as to make it absolutely valueless as a nutrient; the proper thing to do under such circumstances is, in my opinion, to give some form of food which requires but little action of the digestive juices, or to prepare the food so that it is partially digested beforehand.

I have used for some time, with great advantage, egg albumen dissolved in water, as a food for sick children when the stomach was intolerant of ordinary milk food; also, gum arabic water will nourish for a surprisingly long time, and allay irritability.

The barley food, as recommended above, would be valueless in a case of this kind, and pure cow's milk, diluted to resemble as closely as possible the mother's milk, would be regurgitated. In such cases, and they are very frequent in the summer months, especially if you are called much in consultation practice, the preparation of milk which has undergone partial digestion by the pancreatic ferment, in an alkaline condition, I have found most useful. The preparation is one which must be made with care, and according to the following directions: Into a clean quart bottle put a powder of five grains of extractum pancreatis and fifteen grains of bicarbonate of soda, and a gill of water; shake; then add a pint of fresh milk. Place the bottle in a pitcher of hot water, or set the bottle aside in a warm place for an hour or an hour and a half, to keep the milk warm; by this time the milk will become peptonized. When the contents of the bottle acquire a grayish yellow color and a slightly bitter taste, then the milk is thoroughly peptonised; that is to say, that the caseine of the milk has been digested into peptone. Great heat or cold will destroy this digestive action, so, to prevent all further action, when you think that the digestion has progressed far enough, at once place the bottle of peptonised milk on ice, or into a vessel of boiling water long enough to scald its contents; it may then be kept like ordinary milk.

I have found from experience that it will be objectionable to the child if the bitter taste is at all well marked; the mother, who should receive your instructions, should be warned to frequently taste the milk during its digestion, and as soon as the bitter taste is the *least* apparent, the bottle should be placed on the ice for cooling and use, as in these instances it is sufficient to partially peptonise the milk.

I mention these facts particularly, as, strange to say, I have always failed with it in hospital practice, whereas in private practice I have had some excellent results, owing, I think, to extra care in its preparation.

Whey is another admirable alternative in these cases; it can be made in the usual way by rennet, and afterward sweetened slightly and given to the child cold or warm, as it prefers, in the same manner as ordinary bottle feeding; it may be made with wine and

given when there is great weakness, being both nourishment and stimulant. Mothers do not often know how to make wine whey; the proper method is to put the milk to boil, and when boiling put a wine-glassful of sherry, say to the pint, into it. If the curd does not separate, add more wine until it does, and as soon as you notice separation of the curd taking place add no more wine, but let the mixture boil for a time, until the whey and curd have been thoroughly separated, consuming about five minutes. This should be then thoroughly strained. It has been recommended to use lime-water in the feeding of infants and young children. I am opposed to its indiscriminate use. I have seen children who could not tolerate even the ordinary weak preparation of the Pharmacopœia. Undoubtedly at times it may arrest vomiting, as we all know, both in children and adult practice, but I much prefer, when it is necessary to use an alkali—and if you use cow's milk raw for a young babe, it is always advisable to see that it is made alkaline—to do it with a small quantity of bicarbonate of soda.

The food which I have recommended to you above for the weaning of children I am sure that you will find it work satisfactorily, especially in large cities, where the milk supply is so apt not to be reliable, and on that account so difficult to keep sweet without boiling. I have one word of caution to give you in regard to the use of nursing bottles. They are certainly useful as labor-saving machines in early infancy, and when thoroughly cleaned and carefully watched are no doubt indispensable; but I have long since come to the conclusion that, if you can persuade the mother and nurse to take the time and have the patience to feed a child that is old enough to manage by the cup or spoon, the word *colic* will seldom meet you in your practice. I am convinced that in institutions for foundlings, if it could be possible to discard the bottle, the percentage of death would be very much diminished.—*Archives of Pediatrics.*

ORIGINAL CORRESPONDENCE.

DALLAS, TEXAS, March 8, 1884.

DEAR DOCTOR GAILLARD: I have obtained the method of Kocher, of Berne, by which, it is claimed, a cat-gut ligature superior to any now in use can be prepared. It is as follows (as given by Dr. Pilcher): "Place the cat-gut in the oil of juniper for twenty-four hours, then in alcohol, 95 per cent., for preservation. When wanted for use it can be immersed in a solution of carbolic acid 1 to 20." Dr. R. Weir, of your city, if I remember aright, recently stated that it was best to keep it in the oil of juniper and not transfer to alcohol. Truly yours,

HENRY K. LEAKE.

PROCEEDINGS OF SOCIETIES.

[NOTE.—The weekly medical journals very properly publish the proceedings of societies as soon as the societies adjourn. This journal being a monthly cannot, of course, do this; it will publish, therefore, only such carefully obtained proceedings of American and European societies as are most interesting and instructive.—ED.]

NEW YORK ACADEMY OF MEDICINE.

THE HISTORICAL DERATE ON PUERPERAL FEVER.

Commencing December 6th, 1883, there were papers presented and discussions held on the above subject, which may justly be termed historical in interest and value. Instead of publishing these, as the weekly medical journals did, in a fragmentary and disjointed manner, from week to week, the whole of the Proceedings of several meetings were collected, and are now published entire. The value of such a publication needs no description, and these valuable Proceedings are now presented with much pleasure.

The routine business being over, Dr. T. Gaillard Thomas said.—At a time when a flood of literature pours in upon the practitioner of medicine from numberless sources, upon every conceivable subject connected with his calling; when original ideas are spread out over space as gold-beaters hammer foil; and when the changes are rung upon every meritorious essay by a host of others which offer the reader merely the same thoughts in different words—it is pertinent and justifiable for every member of this audience to demand the motive, or, as our Gallic neighbors would express it, "the *raison d'être*," of a paper upon so trite a subject as the present, and one which has already received the attention of many of the brightest intellects devoted to obstetrics.

I accept this challenge to-night, and, before beginning my essay, shall strive to justify, if I can, its preparation. I freely confess that it contains nothing that is original, nothing which has not elsewhere been as fully and as clearly stated, nothing which has not already received careful consideration at the hands of the progressive obstetricians of the world. And yet I am not only emboldened to present it, but even to hope that it may be regarded as worthy of the attention of those who listen to its reading to-night, and that, in its dissemination among many in this country in whose medical pupilage I have taken part, it may accomplish good.

The plan of treatment for that hydra-headed monster styled puerperal fever, which I shall advocate, has nowhere, so far as my knowledge extends, been fully elaborated in any one essay, and carefully systematized; the various portions of the plan are not yet even generally accepted as orthodox; and many appear at this late date to have paid little attention to them in practice, even if they have seen them in print.

In support of these assertions I will refer to these two facts. In the year 1879, at a session of the American Gynæcological Society in Baltimore, the question of intra-uterine antiseptic injection for the cure of puerperal septicæmia came up for discussion. It received very qualified approval, and, with one exception, if my memory serves me right, I stood alone in its strong and uncompromising advocacy. About a year ago I related, in a society of this city, the history of a bad case of puerperal septicæmia which was, beyond question, saved by the persistent and bold use of intra-uterine injections. This very desultory report was published in some of the medical journals of this city, and after its appearance I received a half-dozen letters from men at a distance in this country, asking how the injections were made, and other questions showing so great a want of familiarity with this valuable method that

I became convinced that still another exposition of its merits might prove well-timed and useful.

Lastly, I would state that I was, if not the first, at least among the very first, who adopted the use of intra-uterine injections and cutaneous refrigeration, in the very inception of both plans in this country; that I have since then never ceased to urge them as valuable resources upon the numerous practitioners with whom I come in daily contact, as teacher, consultant, and associate; and that, for this reason, I trust my large experience in and present estimate of these methods may prove of some value.

Of all the great benefits which have, within the past quarter of a century, been conferred by the advancing science of medicine, in my opinion, none has been more important and more signal than that relating to the prevention and the cure of the febrile conditions incident to the puerperium. Even before the new era which has recently dawned upon this subject, the personal communicability of these dangerous affections was fully recognized, but it was left for the establishment of the germ theory of disease to render their extreme contagiousness fully appreciated; to impress the facts that, with proper precautions, prevention was within the range of possibility, and that treatment based upon the knowledge thus given us might be made effective, and, to a great degree, certain.

Ever since the days of Hippocrates, pathologists have striven earnestly to elucidate the phenomena of those diseases which developed in consequence of the process of parturition, and produced such lamentable results. Over two thousand years have elapsed since that time, and only now have we passed "out of the darkness into the light" in reference to the matter, for now it does really appear that we are beginning to understand the pathology of that group of affections styled puerperal fever. The views which were, during this long period, at various times advocated and more or less generally adopted, are thus enumerated by Hervieux* in his masterly and exhaustive treatise upon this subject:

The doctrine of suppression of the lochia; the doctrine of metastasis of the milk; the doctrine of inflammation of the uterus and peritonæum; the doctrine of a specific puerperal fever; the doctrine of uterine wounds as we have one after an amputation; the doctrine of a multiplicity of puerperal affections grouped under one common name; the doctrine of puerperal blood-poisoning.

Let us pause here and review the features in the condition of the puerperal woman which render her a prey to so many and dangerous disorders which spring up as consequences of utero-gestation and of parturition.

In the first place, her blood is in a condition of hyperinosis—that is to say, it contains a great excess of fibrin. If it be drawn by the lancet, it presents the buffy coat, upon which our forefathers laid so much stress, in the most marked degree, and from this arise two liabilities—first, a tendency in such blood to form thromboses in the heart and the bloodvessels, and, second, a tendency to prove a most prolific ground for the development of sepsis and zymosis. Measles, scarlatina, and varioloid, which give no very bad prognoses when they excite zymosis in the blood of the non-pregnant woman, commonly produce death when they act upon the blood of pregnancy.

Then the nervous system is in a plus state of sensitiveness and excitability and influences which are very controllable in the non-puerperal state produce very evil results here. For example, an accumulation of urinary poisons in the blood produces convulsions; an untoward moral influence produces violent mania; and crude ingesta result in severe spasmodic affections in the alimentary canal which, in the same woman when not pregnant, would scarcely have attracted attention.

The local conditions which result from parturition are even more striking.

* "Traité clin. et prat. des mal. puerpérales," Paris, 1870.

The uterus and other pelvic viscera are, at full term, as fully supplied by lymphatics and lymphatic glands as is shown in this diagram;* and the arteries, veins, nerves, and other tissues of that organ, the vagina, the uterine ligaments, and the peritonæum have all undergone a rapid physiological hypertrophy, which permits of an organ only three inches in length ascending so as to touch the ensiform cartilage.

The uterus about the 280th day of gestation contracts and expels the child; then the placenta and membranes; and then closes its emptied cavity, and rests. Let us suppose that in forty-eight hours after delivery a primipara dies of pneumonia, and that we are allowed to lay open the genital tract and examine it from the fundus uteri downward. Outside all looks well; the uterus is merely much larger than in the non-pregnant state. Within, it presents a very different appearance; the whole endometrium, covered over by the greyish, sloughy-looking decidua vera, presents all over its surface an unhealthy, unclean, and diphtheritic look, although free from exudation. Here and there shreds of membrane, consisting of small portions of the decidua reflexa, which had become adherent, appear partially detached and somewhat decomposed. At one point the large placental site is seen, raw, irregular, and covered over by minute traces of the placenta and small bloodclots which close the mouths of the uterine sinuses. The odor of the opened uterine cavity, the walls of which are thus covered, is disagreeable. The substances mentioned have for forty-eight hours been dislodging themselves and mingling with the pinkish fluid which pours like an unhealthy sweat from the placental site constitute what is called the cleansings, or lochial discharge. Upon examining the cervix uteri, we find two or three small rents which pass through the mucous lining and involve to a varying depth the sub-lying parenchyma. In consequence of these injuries, and of absorption through them of the lochial discharge already mentioned, the cervix is swollen and œdematous. As we examine the vagina it will be found that the great distension impressed upon it by the head of the child in its passage to the vulva has in two or three places caused a superficial rupture of the mucous lining of this canal.

We now arrive at the vulva, and here we find several solutions of continuity which have been effected by the escaping head. The fourchette has been torn through, and this rent has extended through a small portion of the perinæum, and one or two small fissures have occurred in the mucous membrane covering over the ostium vaginæ.

Were we to take some of the lochial discharge from the vagina, after the atmosphere has acted upon it, and, abrading the inside of the finger with a lancet so that it bleeds slightly, apply this freely to the denuded surface, and allow it to become dry there, its irritating character would soon become evidenced by a burning sensation in the part, a smarting extending up the hand, and on the next day signs of a slight local inflammation, with a little lymphangitis, would be noticed. This would probably last only two or three days—merely long enough to demonstrate the fact that the fluid is an irritating one, but not sufficiently poisonous to cause erysipelas or severe angeioleucitis.

The natural history of the ordinary local results of human parturition is given in the foregoing sketch. In every case of child-bearing the endometrium is thus incumbered and freed by a process of exfoliation and sloughing; in every case the cervix, vaginal mucous membrane, perinæum, and vulva are, in varying degrees, lacerated; and in every case the offensive fluid, called lochia, poisons these freshly made, unprotected wounds. And yet what are the usual results? Recovery, uniformly, I might say universally, unless some unusual occurrence manifests itself to prevent this happy consummation!

Theorizing about the matter, one would suppose that the mortality resulting

*Here Dr. Thomas showed diagrams.

from such a state of things must be excessive. Here we have a number of recent wounds constantly and unavoidably bathed with a fluid made up of dead and decaying animal tissue in a woman whose blood and nerve states are, with reference to septic disease, like flax prepared for the spark, and who is exhausted by pain, anxiety, loss of blood, and deprivation of sleep. Can one point to any concatenation of circumstances better calculated to insure a bad result? And yet the facts are these: only about one or two in every one hundred parturient women ordinarily die when properly cared for during labor. even in public hospitals.*

Recovery, then, is the very general rule after normal parturition; death the very rare exception. But now and then all this is changed. Some ferment or specific poison gains access to the genital canal and acts as rapidly and as decidedly as a little yeast added to dough. In the latter case, active and immediate fermentation affects the whole mass; in the former a set of striking, alarming, and often fatal phenomena occur, which spread dismay through the lying-in chamber and give an entirely new complexion to the progress of the case. The fact that this unfortnate occurrence has taken place will usually announce itself to the attending physician in this way. He leaves his patient on the morning of the third day cheerful, happy, free from pain, with a pulse of 85, and a temperature of 99°. He is called to her in the latter part of that day and finds that she has had a slight, perhaps a scarcely perceptible, chill; that some pelvic pain has followed it; that the lochia have ceased; that the milk which was just showing itself has disappeared; that a severe headache exists; that a look of indescribable anxiety has replaced the happy expression of the morning; that the pulse rate is 130 to the minute, and that the buccal temperature is 104°.

A poisonous element has by some method or other reached the genital tract, as fruitful a field for its activity as a mass of dough is for yeast, and the result is already manifesting itself. Let us suppose that the patient's medical attendant lays the flattering unction to his soul that all this is due to "malaria;" or that he soothes his troubled mind with the hope that it is "milk fever;" or that, recognizing the attack as one of "puerperal septicæmia," or "blood-poisoning of child-bed," the first link in that terrible chain called puerperal fever, he relies upon medicines given by the mouth or rectum, what is usually the course shown as the natural one of the affection? Within a week, or thereabouts, for there is no rule as to this point, parenchymatous metritis, lymphangitis, lymphadenitis, phlebitis, cellulitis, or peritonitis will very probably develop itself, and what was originally merely a septicæmia will merge into one of these affections, and the patient will pass through the perils attendant upon whichever of these pathological states manifests itself as a consequence of the initial lesion.

Sometimes the septic disorder develops puerperal mania, while at other times a septic pleuritis, endocarditis, pneumonitis, pericarditis, or meningitis follows the systemic poisoning, the lymphatics emptying their deadly contents into the thoracic duct, and thus transferring them into the subclavian vein, as Lusk clearly points out. At other times the condition continues one of true and uncomplicated septicæmia to the end, death occurring from coma, or the patient succumbing to exhaustion from hyperpyrexia, which lasts for weeks. What was originally septicæmia, however, as a rule rarely remains so, but generally passes into some other disorder, and very generally into peritonitis, before a fatal termination occurs.

And now comes naturally the question, What is the pathology of that affection styled puerperal fever? An inquiry into the views which prevail among others would evidently require more time than I can possibly allot to it to-night; and yet I am desirous that my answer, even if very short, shall be so clear, suc-

* Tarnier, "Report of Maternité Hospital," Paris.

cinct, and simple, as to convey perfectly the opinion which a practice of thirty years has impressed upon my own mind concerning a subject which has always deeply interested me, and in connection with which I have had abundant opportunity for study, both at the bedside and in the dead-house.

My observations have led me to adopt the views of those who believe that *puerperal fever is puerperal septicæmia.* It matters not whether it assume the form of metritis, phlebitis, cellulitis, peritonitis, or lymphangitis, the essence of the disorder is a poison, which is absorbed into the blood of the parturient woman through some solution of continuity, and which, in the appropriate soil of the puerperal condition, fructifies and produces the result known in its *ensemble* of pathological phenomena as puerperal fever. From my standpoint, the matter is well stated by Lusk* when he declares that " it has now passed beyond the domain of dispute that puerperal fever is an infectious disease, due, as a rule, to the septic inoculation of the wounds which result from the separation of the decidua and the passage of the child through the genital canal in the act of parturition."

As early as 1870, Hervieux, in his work on the diseases of child-bed, already alluded to, expressed himself upon this point in the following words : " Here I stand ; if what I have said does not carry conviction of the truth of my doctrine, fuller explanation will fail to do so. I believe in the multiplicity of puerperal diseases. I believe in puerperal poisoning as the source of them. Here, in few words, my creed is presented."

In 1877 the Berlin Obstetrical Society appointed a committee on puerperal fever, consisting of Schrœder, Lœhlein, A. Martin, Fasbender, and Boehr—men whose names are sufficient to command attention, even if their words fail to carry conviction. In its report this committee expresses its views thus : † " Under the names ' puerperal fever,' ' malignant child-bed fever,' are included a group of diseases occurring in child-bed which vary very greatly in their manifestations, but have this in common, that they are called into being by the absorption from the organs of generation of a material which gives rise to destructive inflammation and fever. There are, indeed, a number of substances, mainly composed of organic materials in a state of putrid decomposition, which, when brought into contact with an open wound, set up inflammation in it, which extends to the neighboring tissues ; a further absorption by the lymphatics and bloodvessels leads to more extensive inflammation among neighboring and remote organs ; and, when a large quantity is rapidly absorbed into the blood, a quickly fatal poisoning of the whole organism occurs. To surgeons the deadly effect of these materials upon wounds is only too well known, and the greatest advance, probably, which surgery has ever made consists in the so-called antiseptic method of treating wounds—that is, in the scrupulously exact removal of such materials from fresh wounds.

" Puerperal fever is indeed nothing else than the infecting of fresh wounds, such as are found in every newly-delivered woman, with these destructive septic materials. Almost every woman, after labor, has small wounds on the external genital organs, which are caused by the passage of the child through this narrow opening, and in every newly-delivered woman the inner surface of the uterus, from which the protecting membrane has been cast off with the ovum, presents a large wound surface. Thus, every newly-delivered woman is liable to suffer from the dreaded infective wound disease, which, in persons wounded under other circumstances, are called pyæmia, septicæmia, wound-fever, blood-poisoning, purulent infection, etc., *so soon as suitable septic materials are brought into contact with the genital organs.*"

* " Midwifery," p. 608.

† " Report of Puerperal Fever Committee of Berlin Obstetrical Society," December 4, 1877, p. 9.

And now a few words upon the nomenclature of this disease, which for so long has been known under the names of puerperal fever, child-bed fever, lying-in fever, and the names of the various special affections which develop in its course—phlebitis, lymphangitis, etc. Of late an effort has been made, which I think has emanated from that school of obstetrics which has shed so much lustre upon our art, and enriched with so many eminent names the obstetric register of the world—the Dublin school. By members of this it has been urged that the name metria should supplant that of puerperal fever.

I for one sincerely trust that the suggestion will never be adopted. In what is the new name better than the old and faulty term? Does it convey any more accurate pathological facts to the minds of the student? Does metria exclude any chance of error as to pathology, or advance the clearness of understanding in anywise? I think not. Of the two terms it appears to me that, while both are objectionable, metria is the more so.

On the other hand, puerperal septicæmia conveys to the student and to the practitioner a clear and definite idea, which appears to be in consonance with the truth as taught us by modern pathology. In spite of the fact that important complications commonly result from the initial lesion, it appears to me that the influence of this is so paramount that its title should be adopted in spite of the fact that it is far from being absolutely perfect.

I should willingly, for the present, accept the reservation offered by Dr. Robert Barnes,* when he says: "I would propose that the word should not assume that a distinct, specific poison, or sepsis alone, is concerned, but that it should be used comprehensively as a general term, implying that the blood of the puerpera is empoisoned;" and this although I do believe in the existence of a specific poison, which is the great factor, as surely as I believe in such a factor in the production of typhus or variola.

What is the nature of this subtle and deadly poison, which, entering like a ferment into the genital canal of the puerperal woman whose blood is hyperinosed, whose nerves are in a condition of hyperæsthesia, whose utero-placental vessels are partially open, whose cervix uteri, vagina, and vulva are covered with fresh superficial wounds, and whose womb is pouring slowly forth a fluid composed of dead tissue, decomposed blood, and recently exfoliated cells, gives rise to so much disturbance? What do we know of the poison? what is its natural history? what encourages its life? and what kills it, or cripples its activity?

Unfortunately, these questions cannot to-day be satisfactorily answered; but have such questions been any more satisfactorily answered with reference to scarlatina, measles, and varicella? German pathologists have proved that the presence of micrococci, more especially of the round bacteria, occurs so frequently in the pathological products of puerperal diseases as to lead to the conviction that they are important factors in reference to them; but this point, like many others connected with the influence of bacteria as morbific agents, is yet too unsettled for admission into a practical treatise like the present.† Inquiry into the matter is now being pushed with vigor in the laboratories of France and Germany, and we have, according to recent reports, a fair prospect of valuable and practical results.

But, even although we do not at present know the exact nature of the poison which proves the disturbing element in these cases, we surely know that some such toxic agent exists, and it behooves us to learn how to prevent its entrance into the genital tract, and how best to destroy its life or its activity, if it should gain admission in spite of our care and watchfulness.

Whatever be the character of this agent, we know that there are *two, and*

* Lecture in *Am. Jour. of Obstetrics*, January, 1882.

† In reference to this part of our subject I would refer those interested to the chapter upon it by Professor Lusk, in his masterly book upon the "Science and Art of Midwifery."

only two, methods by which it can reach the parturient tract and exert its baneful influence. First, it may be carried to the vulva and into the vagina through the open orifice of that canal by the atmosphere, in which it floats as an impalpable substance; and, second, it may be carried to any part of the genital tract by the fingers of doctor or nurse; by towels or cloths laid against the vulva; by sponges used in washing; by instruments used in the delivery of the child, drawing of urine, or injecting the vagina; and from the bed-clothing and body-clothing of the patient which are in immediate contact with the sexual organs.

As this paper is already assuming proportions greater than those which I originally prescribed for it, I shall deal with this part of my subject rather dogmatically, offering a number of propositions which will embody in a few sentences what would otherwise demand a great deal of space for its enunciation. I shall address my remarks chiefly to the management of cases of midwifery occurring in private practice, as the walls of the hospitals have long been subjected to systematic rules, while my observation in the capacity of consulting physician positively convinces me that in private practice, even among the wealthy who can command every safeguard and procure every luxury, there exists a want of system and an apathy as to preventive measures which border very closely upon criminality. To-day, when it is so generally agreed among the ablest obstetricians of the world that puerperal fever is the result of a special poison, and that prophylaxis against this is, by close attention to very simple details, perfectly practicable, it is the duty of every practitioner to guard his patient against danger by every means in his power. If he accept the views which this paper adopts, his duty is clear; it is equally incumbent upon him to give his patient the benefit of the doubt if he reject them.

PROPHYLACTIC MEASURES WHICH SHOULD BE ADOPTED IN ALL MIDWIFERY CASES, WHETHER THEY OCCUR IN HOSPITAL OR IN PRIVATE PRACTICE:

1. The room in which the confinement is to take place should have the floor, walls and furniture thoroughly washed with a ten-per-cent. solution of carbolic acid or mercuric bichloride, 1 to 1,000, and the bedstead and mattresses should be sponged with the same solution. Curtains, carpets, and upholstered furniture should be dispensed with as far as possible.

2. The nurse and physician should take care that all their clothing, both under and upper, be clean and free from exposure to the effluvia of any septic affection. Should either of them have been exposed within a fortnight to the effluvia of such affections as scarlet fever, typhus, erysipelas, septicæmia, or the like, they should change every article of clothing and bathe the entire body, especially the hair and beard, with a reliable antiseptic solution; that which I prefer for this purpose is a saturated solution of boric acid.

3. As labor sets in, the nurse, having thoroughly washed her hands, and cleaned her nails with a stiff nail-brush, and soaked them in antiseptic fluid, should administer to the patient a warm vaginal injection of antiseptic character; bathe the vulva and surrounding parts freely with the same; repeat this every four hours during labor; and keep a napkin, wrung out of the warm antiseptic fluid, over the genital organs until the birth of the child.

4. Before assuming the functions of their respective offices at the moment of labor, both doctor and nurse should wash the hands thoroughly with soap and water, *scrub* the nails with a stiff nail-brush, and soak the hands for several minutes in a bichloride solution, 1 to 1,000.

5. The first two stages of the labor having been accomplished, the third stage should be efficiently produced; all portions of placenta and membranes removed; and ergot administered, in moderate doses, three times a day, and kept

up for at least a week, for the complete closure of the uterine cavity, expulsion of clots, and occlusion of the utero-placental vessels.

6. The doctor, taking nothing for granted, not satisfying himself with a vague report of the nurse, should, at the conclusion of the labor, carefully examine the vulva of the patient. If the perinæum be lacerated, it should be closed at once by suture, to shut up this avenue to septic absorption; and, should slight solutions of continuity be found in the labia or the vulvar extremity of the vagina, these should be dried by pressure of a linen cloth, touched with equal parts of sol. ferri persulph. and carbolic acid, again dried thoroughly by pressure with the cloth, and then painted over with gutta-percha collodion. If this be thoroughly done, absorption will be prevented at these points for at least three or four days, when the application may be repeated.

7. In six or eight hours after the labor, when the patient has rested, the vagina should be syringed out with an antiseptic solution, and a suppository of cocoa butter, containing from three to five grains of iodoform, should be placed within it, under the os uteri. A syringe with intermittent jet should be used, which will wash away with gentle force all blood-clots, and reliance should not be placed upon the feeble drip of the fountain syringe, the advantages of which are, I think, entirely theoretical.

8. These vaginal injections and suppositories should, in cases of normal labor, be repeated every eight hours; in cases of difficult or instrumental labors, twice as often; and they should be kept up for at least ten days, the nurse observing to the last the precaution already mentioned of washing her hands before every approach to the genital tract of the patient.

9. When catheterization becomes necessary, it is safer to employ a new gum-elastic catheter, which before use should be thoroughly immersed in antiseptic fluid, and which should be destroyed at the conclusion of the case, rather than to trust to the nurse's cleansing of an old silver instrument which bears within it the register of a list of cases of septicæmia in which she has employed it during the past two or three years. It is a very common and very bad habit for nurses to own silver catheters, which they carry about with them from case to case of midwifery.

10. Last, but by no means least, let the physician inform himself by personal observation as to the competency of the nurse to syringe out the vagina thoroughly; to place the antiseptic suppositories just where they should be, and to use the catheter without injury to the patient. Neglect of this precaution has frequently resulted in leaving a fœtid upper segment of the vagina entirely unwashed, while the antiseptic stream was limited to the lower third of the canal.

In a case in which I had performed anterior colporrhaphy and perineorrhaphy at the same time, in private practice, I was forced to withdraw my sutures and sacrifice the operations on account of a sudden rise of temperature to 105°. As I had become alarmed about the patient, I then used the syringe myself, and, to my great surprise and regret, found the upper portion of the vaginal canal filled with a decomposed mass of blood, which the constant but inefficient injections of the nurse had failed to remove.

Even if every suggestion made here be faithfully followed out in every case of labor which one attends in private practice, the trouble involved in the plan will not be great; and it will fall into utter insignificance when measured with the great comfort which will come to the mind of the obstetrician from the reflection that he has fully done his duty in exerting himself to the utmost to protect the vital interests which have been intrusted to his care. This feeling, which would be pleasant if no untoward event occurred, would be tenfold more so if a fatal issue should give rise to the painful inquiry as to his having fully acquitted himself of his duty in respect to proyhylaxis. In the past this unpleasant question has not been often raised, but, as society at large becomes

more thoroughly informed upon the prolific subject of the germ theory of disease, it appears to me that he will stand firmest who can point to a clear record of strict attention to preventive medicine.

It is clear that all this will make of the process of parturition in the future a more important event than it has been regarded in the past, and she who is about to bring forth will be treated as one about to go through the perils of a capital operation. This is just what I think ought to take place, and, when it does so, thousands of valuable lives which are now lost will be saved, and thousands of desolate households will be spared the sorrow of losing their female heads.

I am fully aware that, at the conclusion of this paper, more than one speaker will arise and declare that his experience of many years of large midwifery practice, with scarcely any deaths, convinces him that all these precautions are unnecessary, that the process of parturition must have changed its character, or that this magnifying the perils of a simple physiological process is a work of pure supererogation, which will have its day, and then for ever pass away. I will simply say in advance to these speakers that I don't agree with them, and then quote the language of the Puerperal Fever Committee of the Berlin Obstetrical Society, in pressing the preventive measures of antiseptic surgery upon the Prussian Government:

* " We shall not attempt to portray, from a humanitarian point of view, the anguish which falls upon the numerous families, where the wife and mother, who but just now was radiant with the full bloom of health, has been carried off, just as the family has been increased by a new member, still utterly helpless and dependent upon a mother's care; nor shall we point out what injury is done to the national life of the state by the yearly death of thousands of mothers, and the ruin of thousands of families caused thereby. We may fitly compare the manner in which puerperal fever finds its victims in a definite class of persons with the losses which are entailed by a great war. Just as, in the latter case, the losses fall exclusively upon the young and vigorous male population, *so in the former is the most valuable part of our female youth carried off by puerperal fever;* nay, more, the loss which the family and the State suffer in consequence of puerperal fever is more acutely felt than that which in general accompanies war, because the latter concerns usually the unmarried and only just full-grown young men. The loss of an entire battalion of Landwehr is the only one which can be fittingly compared, in the severity of its results and the intensity of distress which it causes, with the ruin which puerperal fever brings with it."

Before leaving this part of my subject, let me in the strongest manner record my protest against the use of intra-uterine injections as a prophylactic measure, except after very severe operations within the uterine cavity, which render the occurrence of septicæmia almost certain. As a preventive measure, to be uniformly adopted, I look upon it as to the last degree rash and reprehensible. The use of a dangerous remedy in combating the results of a dangerous disorder is always admissible, but a resort to a hazardous procedure for a condition in connection with which danger has not shown itself, and may not do so, should be viewed in quite a contrary light.

TREATMENT OF PUERPERAL SEPTICÆMIA.

Let us now suppose that, in spite of every precaution, the specific poison has gained entrance at one of the numerous door-ways left open in the genital tract between the vulva and the fundus uteri; what are the most reliable means now known to us for checking the advance of the septic disorders which are set up in consequence?

* *Op. cit.*, p. 8.

But let me stop here, before answering the question just asked, and explain what I mean by the use of the term specific poison. I do not believe that there is, necessarily, any specific disease germ which gives rise to puerperal septicæmia! It is probably the same germ as that which is the source of septicæmia, phlebitis, and lymphangitis in the stump after an amputation, in the wound created by a compound fracture, or in the lacerated tract produced by a gunshot. But the pathological condition excited appears to me to be entirely different from that putrid absorption which results from the decomposition of a retained placenta, or a putrid mass of blood. Such decomposition produces a toxæmia, violent and dangerous it is true, but which disappears as soon as the offending mass is removed. That of the true puerperal disease at once, or almost at once, diseases the lymphatics and sets up an action which often proves uncontrollable. If the mere presence of decaying animal material in a uterus would produce puerperal septicæmia without the agency of a specific disease germ, we should surely have that affection developing in healthy country localities where the women are attended by ignorant midwives, but where, nevertheless, it is almost an unknown disorder.

"I," says Hervieux, "who write these lines, declare that in my own country I have within the space of three years attended one thousand cases of labor, and out of that number have lost only one patient!"

And now, in summing up what I esteem the most certain and the most rational treatment of the disease styled puerperal fever, I will be as concise as possible.

As soon as the patient is stricken by the poison, certain very marked phenomena usually develop themselves with great promptness. After a chill or a slight horripilation she is affected by a high temperature, pelvic pain, considerable mental perturbation, headache, pain in the back, and sometimes, though not commonly, by nausea and vomiting. We will assume, first, that the attack is a severe one in its inception; and, second, that the patient is in such a position in life that we are not in any way hampered in our efforts to save her by considerations of economy. Having considered treatment from these standpoints, it will, of course, be easy to modify the plan so as to meet the requirements of a mild attack or of a scanty purse.

As the practitioner sits by the bedside of his patient at the commencement of her attack, he is aware that there are points connected with its true pathology which he cannot yet determine. For example, he cannot say whether the case is going to assume the form of septicæmia lymphatica or septicæmia venosa; whether of perimetritis or parametritis; or whether thrombosis of some of the large pelvic or utero-ovarian vessels or a true parenchymatous metritis is to play the most active part in the siege which has begun. If he fritter away the golden moments in vague speculation; if he soothe his fears by hoping that the attack is due to malaria, or milk fever; or, if he cast aside the rational doctrines of to-day in favor of the idea of a general infectious and particular form of disease called by the forefathers of the French school *la fièvre des femmes en couche*, time will be lost which can never be regained. If, on the other hand, he is encouraged by his clinical observation to stand with many of the best pathologists and practitioners of our time in the position assumed by Hervieux —"I believe in the multiplicity of the affections classed under the head of puerperal fever; I believe in puerperal poisoning as the source of them" —he will act at once and strike at the poison before it has fairly gained a foothold. In other words, if the physician could see into the future and learn with certainty that peritonitis, cellulitis, thrombosis, lymphangitis or true phlebitis is to be the final disorder, he should, if he reaches the case at the inception of the attack, follow, in my opinion, the course here formulated:

1. As soon as a diagnosis of septicæmia is determined upon, all pain,

nervous perturbation, shock and mental anxiety should be quieted by the hypodermic administration of ten minims of Magendie's solution of morphine, unless some special and very decided idiosyncrasy with reference to opium be ascertained to exist; and throughout the severity of the attack, whenever suffering of mind or body occurs (perhaps it will be about once in every six or eight hours), this should be repeated. In my experience, no other method of administering morphine in these particular cases compares with this, and, as it is not to be continued long, there is no fear of causing the patient to become addicted to the drug as a vice. If a small, sharp, and *new* needle be used, if it be thoroughly cleansed with soap and water before each time of using, and be dipped in a solution of bichloride, 1 to 1,000 of water, just before each insertion, no abscesses will occur. It is the large, rusty, unwashed, and unpurified needle, which the doctor's economy makes last him for many months, which so commonly results in them.

2. The physician must now decide whether, in his opinion, the septic disease which is developing has originated in the wounds situated between the os internum uteri and the vulva, or in the endometrium, above the former point. If he decide in favor of the former view, he should persist, for a time longer, in the more thorough use of vaginal injections; if of the latter, intra-uterine injections should be at once resorted to. Usually the question has to be decided by the efficacy or inefficacy of frequent germicide vaginal injections in bringing down the temperature and controlling other grave symptoms. Should a failure of these seem to prove that the origin of the disease is higher up the genital tract, more decided and radical measures must be taken.

The patient having been entirely relieved of pain and thoroughly quieted, the first injection should be practised in this way: An India-rubber cloth should quietly, without hurry, noise, or disturbance on the part of the nurse, be spread over the edge of the bed on which she lies, and made to fall into a tub of warm water rendered antiseptic by the addition of 2 or 2½ per cent. of carbolic acid, or of the bichloride of mercury, 1 to 2,000, or of some other reliable germicide. Then Chamberlain's glass uterine tube, which I here show, or the very excellent and ingenious tube invented by Dr. George H. Lyman, which is here seen, thoroughly fitted to a Davidson's or Higginson's syringe, should be immersed in the tub. The nurse now aiding the patient by the shoulders, and the doctor by the hips, she should be gently laid across the bed and be made comfortable with a pillow under the head. Each foot should rest upon a chair placed at either side of the tub, and she should be entirely covered over with a couple of blankets. The doctor, now placing himself between the knees of the patient, should take the tube in his right hand, while a stream of water is made to flow through it by the nurse, who squeezes the syringe bulb; and he should pass it gently up to the fundus of the uterus. The stream of water, which has been steadily flowing, is now projected with gentle force against the walls of the uterus, washing away adherent blood-clots, detaching portions of hanging membrane, and everywhere neutralizing the influence of the poison which has excited the disorder.

After the first injection, the position of the patient need not be disturbed, but the injections may be given as she lies upon a bed-pan.

In some cases, in which I have had reason to suspect that portions of the placenta or membranes have been retained, I have chloroformed the patient, passed the hand, rendered thoroughly aseptic, within the cavity, and very gently scraped off adherent masses from the uterine walls, using the nails as a curette, as Wilson, of Baltimore, has advised. In some other cases I have rubbed the whole endometrium with an aseptic sponge, held in a long sponge-holder, or employed the largest of my curettes, to remove clots and adherent secundines, with great apparent advantage.

That the use of antiseptic uterine injections after parturition is attended by danger, is beyond question. The greatest hazard attending this plan is the entrance of air into the uterine cavity; the next, the production or hæmorrhage by detaching some of the thrombi which fill the mouths of the uterine sinuses; the third, the danger of forcing the fluid used as an antiseptic directly into the general circulation, through the introduction of the tube into the mouth of a sinus; the fourth, the creation of convulsions, violent pain, or nervous prostration, by a sudden and baneful influence upon the nervous system; and the fifth, the passage of the tube into a Fallopian canal, and the injection of fluid directly into the peritoneal cavity, as in a case reported by Dr. W. Gill Wylie in an interesting paper in the *New York Medical Journal* for June 23, 1883, p. 679.

All these dangers may be, to a great extent, avoided by care as to details; by using a large injecting tube which cannot enter an open-mouthed sinus; by using water warmed to 105°; by injecting the fluid through the tube so as to exclude air before passing this up to the os uteri; by using only a moderate degree of force in throwing the jet against the uterine walls; and by proceeding with the whole affair gently, cautiously, slowly, and intelligently.

The tube should never be allowed to fill the os uteri completely, so as to prevent the escape of the injected fluid. Should the cervical canal be so narrow as to hug the tube closely, it should be dilated by dilators of hard rubber, by the fingers, or by Barnes's bags, before the injection is practised.

A solution of the persulphate of iron should always be at hand in case of sudden hæmorrhage from displacement of a thrombus. Should this accident occur, ergot should be immediately given hypodermically, the iron solution be at once added to the antiseptic solution and allowed to pass into the uterus, and pressure be made upon the fundus so as to stimulate the contraction of uterine fibre to accomplish closure of the open sinuses in that way.

Quite a number of cases of death from this plan of treatment are on record. In a very large experience with it I have met with but one. The whole number on record would, however, fall, I think, into insignificance if weighed in the balance against the many deaths which have been due to a neglect of the means, or against those lives which have been saved by it.

After all, the question as to the dangers attending a plan of treatment are not to be settled upon mere abstract reasoning. The evil which it is known to do must be weighed in one scale, and the good which it effects in another; and careful consideration must decide whether we are justified in accepting the former for the sake of the latter. Judged in this manner, I feel very sure that intra-uterine injections for puerperal septicæmia deserve a place among the most valuable resources for the saving of life for which we are indebted to modern pathology.

The frequency of these intra-uterine injections should vary greatly with individual cases. In mild cases of septicæmia, where the temperature comes readily down after the uterus has been washed out, and rises very slowly, they need only be used once in every five hours; in other cases they become necessary once in every three hours, and in bad cases they are required once every hour. These injections should always be administered by a physician, should always be carried fully up to the fundus uteri, and should always be used with every regard to caution as to detail which has been already mentioned.

Many prefer the use of those syringes which allow of a steady flow of a stream of water, propelled by gravitation, as is the case with the so-called fountain syringe, which is so popular among us. This is partly because greater safety is supposed to attach to these, and partly from a theory that danger attends the propulsion of a stream by intermittent jet against the uterine walls. For a number of years I shared this belief, but experience has taught me that a gentle projection of the fluid is an advantage, that by this means a more

thorough cleansing is accomplished, and that with due caution no more danger attends the plan than that by the steady flow.

Some have adopted continuous irrigation of the uterine cavity, but this is, I feel perfectly certain, a delusion and a snare. It gives the appearance of great thoroughness, which it does not possess, for the reason that by this plan it is very difficult to bring the germicide fluid into full contact with the entire endometrium. For vaginal irrigation it is an excellent method, but I have seen it allow the temperature to remain high when applied to the uterine cavity, and have replaced it by the intermittent douche, used only as often as every three hours, with striking results. Nevertheless, in very severe cases I prefer to employ continuous irrigation, replacing its use every third hour by that of the intermittent current; rather than exhaust my patient by half-hour disturbances and injections, as has been by some advised.

After all that has been said on this subject, the essential fact is this: that plan is best which accomplishes most perfectly the cleansing of the parturient canal. With ordinary precautions, danger need not necessarily attach to any method.

3. The uterus having now been thoroughly cleansed, and the patient entirely quieted, attention should be turned to controlling the temperature, which, in septicæmia of puerperal character, runs so high and maintains itself at so exalted a range as to constitute one of the immediate factors of a fatal issue. Even if this were not the case, the patient's strength is so much exhausted by prolonged high temperature, her nerve-power so much depreciated, her blood-state so rapidly injured, and her comfort so decidedly interfered with, that these considerations alone would point to the propriety of combating hyperpyrexia. For this purpose I formerly relied upon the affusion of cold, or tepid water, the patient lying upon Kibbee's cot; at present I accomplish the same result more easily and more pleasantly for the patient by the use of Chamberlain's rubber-tube coil, which I here show. A mat, composed of a rubber tube rolled upon itself in a circle, covers the whole abdomen from the ensiform cartilage to the symphysis pubis; the upper end of the tube which makes this mat is anchored by a weight in a tub of ice-water, placed about three feet above the level of the patient, and the lower end falls into a tub upon the floor. By syphon action the water of the elevated tub runs through the tube which constitutes the mat, and collects in the receptacle on the floor. By this means a temperature of 104° can very readily, as a rule, for there are exceptions to the rule, be kept at 100° for weeks together.

Unfortunately, there are almost insurmountable difficulties connected with the use of this invaluable method in the minds of the patient's friends, the patient herself, the nurse, and alas, too often, the attending physician. You are told that the patient becomes chilled, that the coil prevents her resting, that the temperature absolutely goes up under its use, and descends whenever it is left off; and by the doctor you are apt to be informed that his fear of resulting pleurisy, bronchitis, or pneumonia is very great.

I will merely say, in refutation of these charges, that in my service in the Woman's Hospital, where convalescents from laparotomy are constantly under treatment in large numbers, this means of controlling temperature is as commonly and as freely in use as poultices are in general hospitals, or gargles in dispensaries for diseases of the throat. We never meet with any of these difficulties, and very rarely with failures as to the desired result, and I believe that I am correct in saying that successive house-staffs, whose duty it has been to carry out the plan, have thus far had, to a man, the most implicit faith in its beneficial agency.

There are some peculiarities about it, however, which I must mention. Very often the coil will not succeed in controlling the temperature for twenty-four

hours; its prolonged use alone develops and illustrates its great benefits; and removing it from the body for an hour at a time damages its influence very much. I have never seen evil result from the chilliness which it excites, if hot bottles be kept at the soles of the feet, and in not one instance, out of hundreds of cases, have I seen pneumonia or pleurisy excited by it.

4. The nervous system should be so kept under the influence of febrifuge medicines as to keep under control the tendency to chill and pyrexia. For this purpose, fifteen grains of the sulphate of quinine should be given in capsule or by suppository night and morning, or, in place of this, two capsules may be given night and morning of Warburg's tincture, in the form of solid extract, as advised by Dr. J. T. Metcalfe. Lastly, to the same end the salicylate of sodium may be employed.

5. The patient's diet should consist entirely of fluid food, given often and in small amounts. The staple article should be milk, but animal broths and gruels may be alternated with it with advantage.

6. At the very commencement of such a case, the attending physician should, in the patient's interest, surround himself with efficient and abundant assistance. If he undertake to wash out the uterus every four or five hours without other assistance than that of the nurse, and if the patient is to rely for the constant attention and care, which she will inevitably require, upon one nurse, it is needless to point out that the duty of both doctor and nurse—vital duties, be it remembered—will be but half performed. And, unfortunately, the penalty will fall upon the patient and her friends.

For a case of puerperal septicæmia to be properly treated in private practice by the plan here advocated, it is necessary for the attending physician to associate with himself some young practitioner, who has the time to devote to the case, and the intelligence to use the uterine douche safely and efficiently. Furthermore, two nurses are necessary: one to be in charge for twelve hours, and the other then to relieve and replace her for an equal time. Without the rest and sleep thus afforded, no nurse taking charge of such exacting cases as these can possibly do her duty in such a way as to subserve the patient's interest. As a rule, the nurse will begin with the declaration that she is competent and willing to take entire charge; that she is one of those people who can do without sleep, etc.; and her heroic offers of self-sacrifice are hailed with enthusiasm by the terrified family. To believe in, and to act upon, this would be very foolish and very dangerous. After three nights of watching, this same nurse would snore through the hours in which her patient needed her, give the wrong medicines, mislead the doctor, allow the bladder to become distended with urine, and fail in every requirement of the occasion.

If the patient cannot bear the great expense attendant upon the extra service which I have mentioned, it is her misfortune, and for such as herself the doors of our hospitals are open. There is no case of ovariotomy in the Woman's Hospital, however poor the patient be, upon which, thanks to the generous arrangements of its managers, just such attendance as I have mentioned is not lavished.

The antiseptics which have heretofore been tried under these circumstances are thymol, boric acid, salicylic acid, carbolic acid, and mercuric bichloride. Of these, all have disappeared before the superior merits of the last two; and carbolic acid, which for so long a time has been almost supreme, appears about to be abolished in favor of the bichloride of mercury, 1 part to 1,000 or 2,000 of water. For all antiseptic purposes outside of the uterus, the bichloride is now, owing to the carefully made and important investigations of Koch, very generally employed in the strength of 1 to 1,000, and the uterus has now been washed out with this excellent germicide, 1 to 2,000, often enough to make us regard its use as an intra-uterine injection as entirely warrantable. If carbolic acid be

used in that way, it will not be safe to carry its strength beyond a two, or, at most, a two-and-a-half-per-cent. solution.

Dr. Barker, when the reading of the paper was concluded, said: The subject is now open for general discussion. So many of the Fellows of the Academy have signified their willingness to speak, and there are so many whom all will be anxious to hear, that I have felt it to be a duty to limit my remarks on the paper just read to a very restricted time, and to content myself with the enunciation of such general principles as I believe to be important truths without entering much into details. But there is one point which I hope will receive attention from the speakers who are to follow. Very early in my practice I began to direct the use of vaginal injections for the first week after labor, the antiseptic being Labarraque's solution. When I went on duty at Bellevue Hospital, now nearly thirty years since, this was made the invariable rule in the lying-in wards. Subsequently carbolic acid was substituted, and I give a formula for its proportions in the work on "Puerperal Diseases." I have habitually directed its use in all my obstetric cases until the last two or three years past.

At the time of the meeting of the International Medical Congress in London, in 1881, I happened to sit at a dinner next to Dr. Thomas Keith, of Edinburgh, and had a very interesting conversation with him as to the use of antiseptics in ovariotomy. What he said was very suggestive, and led to a good deal of subsequent reflection on my part as to the use of antiseptics in obstetrics. I recalled to mind the fact that often in my practice I had seen disturbances and interruptions of puerperal convalescence the first week after labor, and it occurred to me whether this might be due to the carbolic acid; and the following autumn I decreased the proportion of the carbolic acid one-half, and thought that my patients did better.

On further thinking of the subject, I said to myself: The carbolic acid, even in the larger proportions which I have formerly used, was not strong enough to destroy the micro-organisms; and is it not possible that nature has wisely so arranged as to furnish the best fluid for constantly bathing the bruised and lacerated tissues in the much-maligned lochia? Are not absolute rest and freedom from disturbance of these tissues much more favorable to their restoration than any washes that can be used? Since that time I have considerably surprised nurses by directing that no injections should be used unless specially ordered.

Dr. A. A. Smith, who frequently visits my patients during the first puerperal week, when I have other engagements, informs me that this direction was given more than two years ago. Since September, 1882, it is only in a small proportion of my obstetrical cases that I have seen any reason for ordering vaginal injections. It is hardly necessary to say that absolute cleanliness is insisted upon, and that not a spot of blood should ever be found on either the person, or her clothing, or her bedding.

We both can declare that since this time we have not had a single case, including instrumental cases, which during the puerperal period has given us any anxiety, or required more than one ordinary attendance of one daily visit for nine days. This may be only a happy coincidence, but it seems to me significant. I think most present will be glad to hear the views of others on this new departure.

Dr. W. M. Chamberlain said: I do not propose to enter into the general discussion of this subject, or of either paper which we have heard, but would like to notice some remarks made at the first meeting about the glass tube mentioned by Dr. Thomas and devised by me some years since for washing out the puerperal and septic uterus.

Dr. Thomas stated that he found occasion to make some modifications in the instrument, namely, to bring the openings nearer together at the uterine

end and to make an opening at the extreme end. The first of these I had long since done, and about the propriety of the second I still have some doubts.

Another gentleman criticised the tube as too large, and this suggests a point of much diagnostic value, as it seems to me, in determining in what cases intra-uterine injections should be employed and when they should be omitted, or, if employed, suspended. In every autopsy of a woman dying from puerperal septicæmia which I have seen, the uterus has been found large, soft, and flaccid. And in all the cases during life which I have seen since I became critical on this point, the same condition has existed. There are different grades of septicæmia, such as sometimes follows after slight breaks in the mucous membranes of the genital passages, a little tear of the cervix, vagina, or perinæum, and is marked by a gradual rise of temperature day by day, until, a week or more after delivery, the patient may come into a critical condition. This is the analogue of surgical fever, and is to be distinguished from the explosive form, which is generally seen within forty-eight or seventy-two hours after delivery, ushered in by a sharp chill, lochial fetor, rapid rise of temperature, restlessness, anxiety, and prostration. When this exists, so far as I know, it always suspends the process of involution, the uterus becomes relaxed, the discharges accumulate in it, and are partially retained, and the uterus becomes a hot-bed, where the spawn of microbes will fructify in profusion or the virus of putridity may ferment unrestrained. These are the cases, I believe, which require antiseptic uterine injections, and in these the os is so patulous and so soft that a large tube will pass readily by its firmness, will give a leverage which will lift the soft anterior lip, and leave beneath it a space for free exit of the injected fluid. In such softened tissue, a large bearing surface is safer, even as a large sound is safer than a small one in a soft urethra. While if the uterus be itself thus open there is reason to fear that its tubes and sinuses may also be patulous, and therefore liable to be entered or injected by a small tube, particularly if it be open at the end. The remarkable studies of Dr. Garrigues have shown us that the ordinary lochial discharge in a normal delivery is not noxious, if access of a ferment or a contagium from without be carefully excluded. I hope we may hear from him again on this point, and will leave him to give his account, which he will do much better than I. To the objection that in my tube, as originally made, the antiseptic fluid is evacuated in the vagina before it reaches the womb, I can only say that I had the best results with the original tube, and think it not probable that so large a calibre would be evacuated so rapidly by an orifice without the womb, when that orifice was so small.

I repeat it, that I find no occasion for irrigating a uterus in which the process of involution is going on at or about the normal rate, for such a uterus does not contain the septic material to be washed away. Some, at least, of the cases in which the injections have seemed to do harm are to be ascribed to the failure to make this distinction.

Dr. W. T. Lusk thought that the society was to be congratulated upon two such papers as that of December 6th and that of the evening, as, in many respects, in spite of the seeming antagonism between them, they really supplemented each other.

While it was his desire to confine his remarks to the local treatment of puerperal fever, yet he would venture to state his faith concerning the etiology of the disease, as in practice every man is governed by his theoretical views. He would say that in his opinion surgical fever and puerperal fever are not only analogous, but are essentially one and the same process.

To maintain this definition it was necessary to bear certain facts in mind. Much confusion had been occasioned by the failure to classify as distinct from puerperal fever the action of certain extraneous poisons, such as those of scarla-

tina, of typhoid and malaria, which, ingrafted upon the puerperal woman, lose many of their characteristic features, and in their modified form present many features which are usually attributed to puerperal fever.

Again, the differences in symptoms between surgical and puerperal fever are in a large measure due to differences in the anatomical conditions. The entrance of poisons into the system through a clean cut stump necessarily would give rise to symptoms of a different nature from those produced by the same poison when introduced through a puerperal wound, where the serous infiltration of the tissues, the wide intercellular spaces, the dilated lymphatics and veins, the ordinary machinery for the removal of the retrograde products of the pelvic organs, all are active in conveying deleterious as well as the normal waste materials into the organism. Again, it should not be forgotten that in puerperal women a special danger exists in the proximity of the peritonæum to the seat of infection. But with differences of symptoms not explicable upon anatomical grounds, surgical and puerperal fever are linked together by the presence in both of the round bacteria. Both are of septic origin. Many arguments against the septic nature of puerperal fever are based upon a confusion of terms and the failure to recognize the modern distinction between putrid intoxication and septicæmia proper.

A decomposing fluid containing rod-like bacteria only is characterized by the foulness of the odors it emits. When injected into the veins it produces symptoms of profound disturbances in the nervous and chylopoietic systems, the animal experimented upon becomes feverish, depressed, a stinking diarrhœa develops, but, unless the first injection be large or the injections frequently repeated, the animal finally recovers. This form is not infectious, because the rod-like bacteria under no circumstances thrive and multiply in the human system, and this explains the fact that physicians have been known to go from the dissecting-room to the lying-in-room with their hands still stinking, and yet have not communicated puerperal fever. But the round bacteria, which thrive in putrefying fluids, but to which putrefaction is not absolutely essential, unlike the rod-like variety, under favorable conditions, which we term the predisposition of the patient, may penetrate the tissues, enter the lymphatics, and be distributed to the parenchymatous organs and to the serous cavities, and far away from the original site of the disease may form sturdy colonies which excite inflammation destructive in character or interfering with the performance of function. Or again, the round bacteria may be disseminated through the system by portions of thrombi disloged from inflamed veins. In many cases, it is true, no such general dissemination of these fungi need ensue. If the septic micrococci are of feeble activity or meet with resistance from the invaded tissues, it was possible for them to progress only a short distance from the point of entry, and there to give up the combat, giving rise to circumscribed inflammations, such as cellulitis and local peritonitis.

With regard to prophylaxis, he thought too great a burden could be thrown upon the practitioner by insisting upon non-essential details. He should hardly expect great results from washing furniture, walls and floors with antiseptic solutions. At least, in lying-in hospitals, where he had seen many epidemics of puerperal fever, there was a time when everything was washed and scrubbed with great vigor. No pictures adorned the walls, no carpets covered the floors, and carbolic acid was used without stint, but he had never observed that these precautions ever exerted the slightest influence upon the prevention or the restraint of puerperal fever. The fumes of sulphurous acid had since been substituted with the best results, and he would strenuously recommend the modes of disinfection employed by the Health Board in all cases where there had previously been scarlatina, diphtheria, typhoid or erysipelas in the house. In this connection he would state that a woman should never, if possible, be con-

fined in the chamber adjoining the bath-room, as he believed that puerperal women were extremely sensitive to sewer-gas poisons.

In normal confinements, the uterus contracted during the expulsion of the head and body of the child in such a way that no air found entrance into its cavity. There is no evidence that decomposition ever occurs normally in the interior cavity. In the vagina the conditions, on the contrary, are all favorable to decomposition. There the lochia stagnate, and there are found heat, air, and moisture, which favor putrefaction. Putrefaction of the uterine contents is not a primary, but a secondary condition, the changes beginning in the vagina creeping upward after a distinct interval into the uterine cavity. This he considered an important point in practice, as in cases where labor had been normal, and there had been no needless interference with its progress, if the vagina was thoroughly cleansed it was rarely necessary to carry the injection into the uterine cavity.

In cases of difficult labor, on the contrary, where the hands or instruments had been introduced into the uterus, primary intra-uterine decomposition was rendered possible, and was then especially favored by lax uterine walls, and the presence of bits of retained placenta or deciduæ. In such cases the intra-uterine douche is often the direct means of saving patients' lives. It would, however, have been better if the uterus had been thoroughly disinfected, not after the symptoms of septic poisoning have developed, but immediately after labor. The douche was then harmless, it stimulated the uterus to contract, and was a powerful means of preventing subsequent dangers. For his own part he preferred the fountain to the Davidson's syringe, but the choice was apt to be determined by circumstances. In not every case of uterine infection were favorable results to be obtained from the douche. In cases where the round bacteria had been inoculated into a wound, the disease rapidly progressed into the tissues beyond the original lesion, so that they were often advancing, a victorious army, far beyond the reach of the stream which was thrown into the uterus. Washing the arm the day after vaccination does not prevent the development of vaccinia. Washing the uterus after the pelvic tissues are invaded does not prevent the development of puerperal septicæmia. His advice, then, would be not to continue the uterine douche in cases where the results of the first injection furnished the evidence of its impotence.

The results of antisepsis, as understood by the speaker, had been most surprising in the lying-in asylums of Europe. In Vienna, where in his student days the mortality had been not far from five per cent., the reports now show one death from septicæmia in two hundred. In Prague, during the last year, upon Prof. Strong's division of eleven hundred cases, there was not one death from puerperal fever. But in these hospitals, and everywhere, the indiscriminate use of uterine injections has invariably added to the mortality. With all the blessings from their use, with the indubitable fact that they have been the means of saving many lives, unless the indications for their employment are carefully restricted, it is to be borne in mind, that they are likewise capable of adding to the risks of the puerperal state, and of swelling the death-roll from puerperal causes.

Dr. H. T. Hanks.—Mr. President and gentlemen, having listened to the very valuable paper of Dr. Thomas on the evening on which it was read by the author, and having been invited by him and by our honored president to express my views upon this important subject, I have felt that it was due you all that what I have to say, where so many will be glad to speak, should be in the fewest possible words that will fully convey my ideas. I have said that this paper is a valuable one, and this subject an important one. I do not say it unadvisedly. I believe this paper will have a most vital and lasting influence, and that in America, among the more intelligent physicians, many of these sug-

gestions made and the course of treatment marked out by him are to become the accepted rules of the future on the treatment of this class of cases.

The profession of to-day, especially in this city, are ready to accept any plan which promises better results than those attained in the past. It is not enough for Dr. A. or Dr. B. to say that he has attended twenty-five hundred cases of labor, and lost but two patients from this fever among all this large number. If Dr. A. or Dr. B. has had, or remembers to have had, but *one* case in every thousand, Dr. C., just across the street, who is equally educated and just as skilful, confesses to have lost one in every 120 of all his puerperal women. Statistics from *memory alone are uncertain.* The disease is not found in the city so much more frequently than in the country, where you compare the numbers. I remember distinctly that in my five years' experience in country practice in Massachusetts, one of my patients, two days after an easy, normal labor, drank a pint of *cold* milk. An hour afterward she was seized with violent colic pains and soon vomited. An hour later she had a severe chill, followed by every symptom of septicæmia and rapid general peritonitis, and she died on the fifth day. Dr. Godding, from a neighboring town, a venerable and able physician, who was called in consultation, concurred with me in pronouncing this a typical case of puerperal fever. We explained it then in this manner: The cold milk drank by the patient was not digested, and caused vomiting; straining at vomiting and the relaxation following allowed some extraneous poisonous matter to enter the open vessels of the womb; the chill and the fever followed in regular order, and death resulted. One other case, two years later, of severe puerperal fever came under my care during the five years of my country practice. This second one followed a difficult instrumental labor, where there was considerable laceration of the perinæum and quite likely of the cervix, although at that time I had not been led to look after this lesion or expect a slow convalescence because of it. This was a case of puerperal septicæmia, resulting in pelvic cellulitis and general peritonitis. She recovered, however, This made two cases and one death out of seventy-five confinements. I believe, from the fact of my being called frequently in the country at the present time to see cases of puerperal fever in consultation, that when numbers are actually considered and exact statistics are obtained, there will be found a much larger per cent. of deaths in country towns from this disease than the profession have been led to suppose.

But in this city I have been interested to get at the facts, and have obtained from the President of the Board of Health the statistics of *deaths*—not cases treated—from puerperal causes during the last four years, and I find that there were 240 deaths in 1880, 259 in 1881, 246 in 1882, 262 in 1883. In 1882 the number was slightly less than in 1881, otherwise the increase from year to year could be explained by the increase of population. The startling fact is here manifest, that for the last four years in New York City, out of 120,418 puerperal women, there have been 1,005 deaths from puerperal fever, or one death in every 120 women who have borne children. One thousand and five deaths from among a class of patients who can be but poorly spared, and who are the most important class, with one exception perhaps, of all that we are called upon to treat, is an alarming fact. I do not, therefore, speak at random when I state that the profession at the present time are ready for any judicious change which promises better results for the future. And I thank Professor Thomas for able contributions upon a subject which has interested us all of late, and which is of vastly more importance to the profession and to the world to-day than the subject of "How to Operate for Cystocele," or "How to Fasten the Pedicle after Ovariotomy," or "How I Stand and Believe on the Code Question."

Many of us who are frequently called to see these cases of puerperal fever have been often led to ask ourselves: "How can we prevent and what can be done to cure these fearful cases?" I believe that I am sustained by a large

number of the profession who are present this evening, if I say that "out of this one thousand and five deaths from puerperal cause in this city during the last four years many of these mothers would not have contracted this disease, and when contracted, might have been cured, had these rules laid down by Professor Thomas been judiciously carried out. My object in speaking will have been accomplished if I can help to emphasize the importance of nearly all of these rules. I will speak first of the name. I believe there is no better one than the one adopted or approved of in his paper, "puerperal septicæmia," and it may surprise you to know that to-day it is becoming more and more adopted by the profession. In 1880 there were reported in this city but 34 deaths from "puerperal septicæmia," while in 1883 there were *sixty-four*. In 1880 there were reported, however, 49 cases of deaths from "puerperal *fever*," and in 1883 there were eight less, although a larger number of *puerperal women died*. To show the result of the teachings upon this subject in the text-books of Playfair Leishman, and our own Lusk, I will state that in 1883, in this city, there were but 41 deaths reported from "puerperal fever," while there were 143 from "puerperal metritis and metro-peritonitis," 64 from "puerperal septicæmia," 5 from "puerperal pyæmia," 1 from "puerperal pelvic cellulitis," 2 from "puerperal cellulitis," and 1 from "puerperal phlebitis."

Thus we see that these several names are used to-day to denote that puerperal disease was manifested in these various ways. In the light of present pathological teachings and intelligent clinical knowledge, we may safely say that nearly all these several diseases have been caused, either directly or indirectly, by one and the same poison, taken into the circulation and resulting in these several organic changes.

For myself, I will say that during the last fifteen years in this city, where I have averaged sixty-five confinements in a year, besides a large number in consultation, I have had two and sometimes three cases of puerperal fever, not always three deaths, from so-called puerperal fever. I have had no case that I could not satisfactorily explain as caused by absorption of the poison at a certain point of the genital tract.

But to come down to the practical points of the paper—the prophylactic measures to be adopted.

Rule 1.—Preparing the room by proper antiseptics and disinfectants. Always try and carry it out, always be certain you do enough, and that without alarming your patient.

Rule 2.—The nurse and physician thoroughly to disinfect themselves and their clothing. This rule cannot be carried out too minutely.

Rule 3.—Bathing of the vulva, etc., of the patient with antiseptic fluids before the delivery of the head. Useful, but not so important as the first and second rules.

Rule 4.—Preparing nurses' and physician's hands, etc., before labor sets in. Absolutely necessary.

Rule 5.—Removing all clots of blood and tufts of placenta, and the giving of ergot in *moderate* doses for a week. Certainly important. The use of ergot in small doses can do no harm, but in full doses (one-half to one drachm doses) will cause an unnecessary amount of distress and uterine colic. Always give it where the uterus does not remain well contracted.

Rule 6.—The examination of the vulva should be made at once in all cases to see if the perinæum is lacerated. If only a slight fissure exists, thorough cleansing with antiseptic fluid, or local application of persulphate of iron to be covered with vaseline is required. If the laceration is extensive, but does not involve the sphincter ani, one deep suture, or two at most, should be introduced at once, the ends lightly twisted, not tightly, as we must expect swelling of the parts—then bent down over the anus or fastened with perforated shot. In no

case should the long loops be allowed to remain directly protruding, to be constantly jarred by the antiseptic napkin, and a source of irritation and sometimes of great suffering. But, however, where the patient is greatly exhausted, the nurse, husband and friends somewhat demoralized, the *primary* operation should be postponed. For we all know that even the *secondary* operation is often the cause of great fever, distress, and, occasionally, danger. Much more so *may* be the *primary one.* If laceration extends through the sphincter ani and into the rectum, by all means delay the operation until convalescence from the puerperal state has taken place, and you have your faithful assistants at command.

Rule 7. Frequent antiseptic vaginal injections are necessary. Perhaps not in all cases; but if sickness follows when you have not used them, you will not cease to regret it. The use of the iodoform suppository, placed near os externum, may be useful in some cases. I should not insist upon this rule, since the distress and the labor attending their use must be considerable. The nurse cannot easily insert them, and the speculum ought never to be introduced for such purposes, excepting in extreme cases.

Rule 8.—Frequency of urinary vaginal injection. A good rule.

Rule 9.—Drawing the urine frequently with a clean catheter. An important rule.

Rule 10.—See personally that the nurse can do, and does do, her work well. Excellent and absolutely essential.

In the *treatment* of puerperal septicæmia I can only concur with every suggestion Dr. Thomas has made, and would add only one remedy to the list of therapeutic agents which he has recommended, and this is aromatic spirits of ammonia, given in one-half teaspoonful dose, diluted with brandy and water and generally given every two hours. Dr. Thomas' suggestion about the hypodermic needle is exceedingly timely.

In using the antiseptic vaginal injections I should suggest the use of a large bed-pan, like the one here shown, and thus avoid lifting the patient to the edge of the bed, for obvious reasons a dangerous procedure. The intra-uterine injection should be used only when it is strongly probable that there is loose débris in the uterine cavity. In that case the cervical canal will be partially open, and the small-sized Chamberlain glass tube should be passed in with the greatest gentleness, and the antiseptic fluid cautiously injected. I would again repeat that only when it is almost *morally certain* that the cause of the disturbance is within the uterine cavity should the intra-uterine injection be used. I should not advise the introduction of the Sims or Cusco speculum into the vagina, nor dilatation of the cervical canal, *unless* I were certain of finding large tufts of placenta in the cavity. The use of the rubber coil with cold water has served patients well after ovariotomy. I certainly should try it in puerperal cases whenever the occasion seems to demand. But this is a dangerous assistant if not watched. The diet of milk and animal broths is excellent.

The selection of a competent nurse and assistants necessary, if we are to carry out this plan, is an important matter. Some of the suggestions may seem unnecessary, a few, I believe, can be safely dispensed with. If the young physician who wishes to succeed in life, should find it impossible to safely introduce the iodoform suppository every six hours, and he has no rubber coil, or that his patient has lost two drops of red blood from the vagina after the expulsion of the placenta, as one has lately claimed in this hall to be an abnormal and pathological condition, instead "of going out and hanging himself," or even following Horace Greeley's advice and going West, he should stop and reflect upon the fact that women *have* recovered from puerperal fever without the aid of either iodoform suppository or cold coil; and also that though his first patient may stain one or two napkins daily for a week with red blood, still she too may recover, and they both may in time laugh at the author of such a statement.

In conclusion I wish to give you the names of the four assistants who have always, when called upon, effectually aided me in the lying-in chamber. I have, of late, been accustomed to call upon my new patient and the nurse some weeks previous to the expected confinement, and telling them both of my desire to have present during delivery, and all through the puerperal state, these four assistants. If they do not consent to my request I respectfully withdraw from the case. If they *consent*, I go on and am satisfied with my labors, and expect perfect results. These four assistants are all important, and the first, second, and third, are of quite as much consequence as the fourth.

And as I look back at my record of births, I find that the want of the first assistant has been the cause of a few deaths; the want of the second assistant the cause of no less than four deaths; the want of the third assistant the almost certain cause of three deaths, and weeks of sufferings for others, while the want of the fourth assistant has been equally disastrous. I give their names: "pure air," "absolute quiet," "judicious diet," "proper antiseptics."

Dr. P. F. Mundé had listened with great pleasure and interest to the paper by Dr. Thomas, and also to the discussion this evening, but had felt at a loss to know what to say in case he should be called upon to speak. Since he first began to practise obstetrics, some eighteen years ago, he had seen a number of cases of puerperal fever in hospital and private practice. More recently it had become his custom to treat puerperal fever locally, precisely as though the case were one of septic wound—just as a wound which gave rise to septic infection would be treated in any other part of the body, and he must confess that he had arrived at the conviction that puerperal fever was, properly speaking, puerperal septicæmia. Although he had arrived at this conclusion, at the same time he wished to qualify the statement. Certainly, whenever he was called to a case in which he found an offensive discharge from the uterine cavity, attended by rise of temperature, preceded or not by a chill, he felt it his duty to wash out the cavity of the uterus. And if he failed to do this, he felt that he had failed in his duty to himself and to his patient. Again, however, he had seen cases in which, in the entire absence of evidence of infection of the uterus or the perinæum, he could not help feeling that the condition was something different from what we found in cases of septic infection. He could not help feeling that there were cases in which we could not exactly trace the source of the trouble to septic infection. He was obliged to subscribe, in short, to the views of the honored president, that there were some forms of puerperal fever which we could not call puerperal septicæmia. Regarding the etiology of puerperal fever, he had nothing to say, and yet the subject had of late been so much talked up that it seemed we would have to subscribe either to the view that puerperal fever was puerperal septicæmia, or else that there was a peculiar form of puerperal fever, puerperal fever proper. At any rate, whenever he had a case of fever during the puerperal state, with offensive lochia, he took the risk of washing out the uterus, and if it were not necessary, he felt that if properly done it probably would do no harm. Concerning vaginal injections as prophylactic treatment, much had been said for and against it. He himself had employed them, although he must admit that the objections which had been offered to the practice might have some foundation. Probably one of the chief reasons why he had permitted them was that the nurse and the patient commonly thought all had not been done that should be done if they were neglected. He objected to the use of the Davidson syringe for making the uterine injections—cases had been reported in which the fluid or air had been forced by it into the uterine sinuses, resulting in death. Certain other dangers from intra-uterine injections he thought should be more forcibly emphasized than Dr. Thomas had done in his paper. The mere absence of discharge from the uterus did not contra-indicate the injections; indeed, it might be a special reason for employing them. This was illustrated by a case in which the dis-

charge had ceased simply because the uterus had become anteverted and closed the outlet. He was doubtful whether it were an advantage to have a terminal opening in the Chamberlain tube. He agreed with Dr. Lusk, that when the temperature remained high in spite of the injections, that the victorious army had probably come on into the general system, and our washings simply brought away the rear-guard, and were liable to do more harm than good if continued.

Dr. Fordyce Barker said: During the five years which I have had the honor to occupy this chair I have never before seen a meeting of this Academy so enthralled by the charm of elocution, the fascination of rhetoric, the glow of conviction, and the air of one who speaks by authority—an air which can never carry weight, unless it has been before fairly and justly earned by good work—as on the evening of December 6th, when the paper was read on "The Prevention and Treatment of Puerperal Fever."

Its authoritative tone, its earnestness and sincerity, its coloring of being based on experience and observation, instead of being unconsciously deduced from preconceived theory, give the paper such a plausible air of scientific truth as must secure its acceptance without question by many minds whose belief rests on authority, without examination of the data or analysis of argument. The more eminent the author of errors which may dangerously influence medical practice in matters of such vital importance as the saving of life of those who have just become mothers, the more striking the literary excellence and the more admirable the artistic merits of a paper promulgating such errors, the more necessary it is that such errors should be boldly met and promptly refuted. Any paper read before this academy, by one to whom all concede a place among the most eminent in the department of the profession to which his life has been devoted, if allowed to pass without examination and discussion, will be accepted by great numbers in all parts of the country as a statement of the science and medical practice, as enunciated by the most prominent men of the period. It is therefore a duty to carefully examine those novelties in doctrine and in practice which are brought here, and subject them to the test of the advanced science of the day and the accumulated experience of the past.

I will mention one other reason which has had a strong influence in overcoming my reluctance to do this work, and that is in the interest of the academy.

In view of some past controversies outside of the scientific aims of this Body, it seems to me desirable and important that the profession at large should understand that in this hall there can be the strongest antagonism in scientific doctrines and in questions of practice, and the keenest encounters in intellectual gladiatorship, carried on with all the courtesy of the duello, without individual hostility or the interruption of personal friendship.

I think most present know the great reluctance which I have to writing, especially the mechanical part—and that other engrossing work leaves me little time for this, except what should be passed either in rest or in recreation, and will therefore thoroughly appreciate the great reluctance with which I have undertaken the duty.

All will agree that the paper was remarkable for its originality, in that some of its pathological doctrines and the practice inculcated for the prevention and treatment of puerperal fever have never been taught in any work on obstetrics, or by any writer of acknowledged repute. If they are accepted by the common intelligence of the profession, they will assuredly be found in the obstetrical works of the future.

As there are many others who will take part in this discussion, whom all will be anxious to hear, and as the author of the paper is entitled to all the time he may wish to close the debate, I shall, in the most concise language consistent with clearness of statement, give my reasons for thinking that the whole tone and

coloring of the paper are misleading and dangerous, because it is supersaturated with septic infection. I would "speak disrespectfully" of puerperal septicæmia. I believe it to be one of the most dangerous incidents which may occur to women after child-birth, and I trust that it will not be regarded as indelicate, if I allude to the fact that in a work on puerperal diseases, published more than ten years ago, a lecture devoted to the consideration of this subject in all its relations fills thirty-seven pages. With the most anxious desire to correct any errors of opinion, and to accept any new views which progressive science or increased and more accurate clinical observation has demonstrated to be true, I have yet found no reason to make any essential change of the views expressed in that lecture.

In the paper which we are now to discuss, the author distinctly avows his belief, without any qualification, that "puerperal fever is puerperal septicæmia," and that "it matters not whether it assume the form of metritis, phlebitis, cellulitis, peritonitis, or lymphangitis, the essence of the disorder is a poison, which is absorbed into the blood of the parturient woman through some solution of continuity." Not only the sentence quoted, but the whole tenor of the paper must convey to the unbiased mind that it is the well-defined opinion of the author that metritis, phlebitis, peritonitis and cellulitis are never seen in the puerperal woman except as the result of an initial lesion, which permits the absorption of a specific poison through the parturient canal, either from the atmosphere, or from direct infection by doctors or nurses, from neglect or carelessness, or other agents brought in contact with the sexual organs.

The tendency to this pathological view has been rapidly growing within the past few years, as a result of the enthusiastic interest excited chiefly by the important investigations of our German co-workers, who have so zealously studied the character and effects of the micro-organisms in puerperal women in hospitals. In several of the most recent and the most excellent systematic works on obstetrics I have observed that nothing is said of the various local phlegmasiæ which are liable to arise in puerperal women as a consequence of parturition, and that they are only alluded to in connection with the subject of septicæmia. This seems to me a very grave omission, which must seriously embarrass young obstetricians, who consult these works for information when normal convalescence is interrupted by any of the local inflammations. No one, as yet, has maintained that the process of parturition and the puerperal state exempt a woman from those causes which induce local inflammation in the non-puerperal, or will deny that the process of parturition, and other attendant conditions besides the absorption of septic poison may be the efficient cause of local inflammation; and I here state my conviction that in private practice, when there is no epidemic influence, twenty cases of local inflammation, due to such causes, will be met with where one will be found due to septic absorption.

It is hardly necessary to say, as I have before expresed the same opinions in a work published some years ago, that I am in entire accord with the author in his preliminary remarks as to the peculiarities in the system of puerperal women. I suppose that all educated men now know that the blood of a pregnant woman is in a state of hyperinosis, and that, as a rule, "her nervous system is in a plus state of sensitiveness and excitability, and influences which are very controllable in the non-puerperal state produce very evil results here." But it is very evident that in certain points our opinions are wide apart. He regards certain conditions, which always are found following normal labor and always occur in normal puerperal convalescence, as pathological, but which I believe to be purely physiological.

The ancients believed in the poisonous nature of the menstrual fluid. Pliny described the menstrual fluid as a "fatal poison—which corrupts and decom-

poses urine, deprives seeds of their fecundity, destroys insects, that it blasts the garden flowers and grasses, and causes fruits to fall from their branches."

I had supposed this superstition to be extinct until informed by a letter from my friend, Dr. Weir Mitchell, that he knew "old men who would not permit a woman to enter their wine-room, for fear that, if menstruating, it would injure their wines." He also informed me that "in Roquefort women are not allowed in their cheese cellars." I suppose the theory must be that menstrual bacteria will destroy the bouquet of the Roquefort cheese.

But on the evening of December 6, 1883, in this Academy of Medicine, I first heard the full evolution of this doctrine clearly enunciated. The lochia are described as an offensive fluid, made up of dead and decaying animal tissues, which poisons freshly-made unprotected wounds. I quote textually two paragraphs:

"In every case of child-bearing the endometrium is thus encumbered, and freed by a process of exfoliation and sloughing; in every case the cervix, vaginal mucous membrane, perinæum, and vulva are, in varying degrees, lacerated; and in every case the offensive fluid, called lochia, poisons these freshly-made, unprotected wounds."

Again the writer says: "Here we have a number of recent wounds constantly and unavoidably bathed with a fluid made up of dead and decaying tissue, animal tissue in a woman whose blood and nerve states are, with reference to septic disease, like flax prepared for the spark, and who is exhausted by pain, anxiety, loss of blood, and deprivation of sleep."

Other quotations might be given of a similar tenor, and the prophylactic measures, which he asserts "should be adopted in all midwifery cases, whether they occur in hospital or in private practice," are based mainly on this theory.

Can it be true that the process necessary for the birth of the human race is always attended with the development of a deadly poison whose malignant effects must inevitably prevent the spontaneous and kindly healing of such little traumatisms as always result from the process, and that, therefore, it is the duty of the accoucheur to take preventive measures of the character proposed? Does every parturient woman, in performing the function of maternity, like the scorpion,* that carries in its tail an agent for suicide, if death is threatened by fire, physiologically generate an equally fatal poison in a corresponding locality, which the obstetrician must guard against by means that are most inconvenient, alarming, and not altogether free from danger!

I do not intend now to examine the question, which I have before discussed very thoroughly, and my views have long been published, whether there is not a distinct disease, most appropriately denominated puerperal fever, when, if there be any septicæmia, it must be a consequence of a primary disease, and not a cause. Nearly a hundred years ago the eminent obstetrician of London who succeeded Denman, Dr. John Clarke, wrote as follows in regard to puer-

* The late Professor William H. Van Buren used to narrate that, when a surgeon in the army and stationed in Florida, he had often seen the soldiers amuse themselves by placing a scorpion within a circle of fire. After vain and frantic efforts to escape, it would stop, strike its tail into its head or body, and instantly die.

Byron refers to these insect Catos in the following lines:

"The mind that broods o'er guilty woes
Is like the scorpion girt by fire,
In circle narrowing as it glows,
The flames around their captive close,
'Till, inly scorch'd by thousand throes,
And maddening in her ire,
One sad and sole relief she knows:
The sting she nourished for her foes,
Whose venom never yet was vain,
Gives but one pang, and cures all pain,
And darts into her desperate brain."—*The Giaour.*

peral fever: "Unfortunately, the uniformity of the disease was assumed, and each author erected his own experience into a standard, by which to judge of the descriptions and the practice of others." This observation, which I read early in my professional life, made a strong impression on my mind. I trust that it will not be deemed egotistical that it had great influence on my mind during the twenty-five years that I was engaged in teaching medical students, as I felt strongly the responsibility of the position, and that I should be culpably negligent in my duty if I simply gave the results of my own observations, or the opinions of a limited number of observers, or the theories of a few popular authorities, but that I was bound to give the sum of the knowledge which had become a part of the common stock of the profession. For reasons which will be obvious, I felt this more strongly in regard to puerperal fever than any other subject which I had to discuss either before medical students or in medical societies. More has been written on this than on any one disease. It has been a terribly fatal disease in lying-in hospitals in all the great cities where such hospitals are found. It has been fatal as an epidemic in rural districts, where within a certain area every woman in a sparsely-settled population, who gives birth to a child, for a certain limited period is affected, and a large proportion die. I could refer to very many published reports of such epidemics which have occurred in villages and towns where for twenty-five or thirty years previous not a single death has occurred in childbirth except from the casualties of labor, such as rupture of the uterus, hæmorrhage, and convulsions.

All we know of any disease is derived from the study of its ætiology, its clinical phenomena, and its anatomical lesions. The epidemic disease to which I have just referred differs in all characteristic points from what is known as septicæmia. It differs in its origin, its modes of attack, its symptoms and its anatomical lesions. The symptoms are frequently manifested a day or two before, or even during labor, even when the child is subsequently born alive. In septicæmia, the symptoms are never observed before or during labor, except when the fœtus is putrid. The former disease, puerperal fever, originates from epidemic causes, and from contagion and infection. The latter, from nosocomial malaria, from autogenetic infection, and from direct inoculation. Can a woman after childbirth be exposed to the danger of receiving the poison which produces septicæmia in larger doses, than when she has retained in her uterus a portion of putrid, decomposed placenta? Yet I do not believe there is a single person who has had considerable obstetric practice for twenty years, who has not had more than once to remove portions of putrid placenta which have been retained for days, and the patient has had no disturbance of such severity that he would call it puerperal fever. In the Texas *Courier-Record*, December, 1883, Dr. H. C. Ghent, of Belton, Texas, gives an amusing report of a case to which he was called three days after labor. She was attended during labor by an ignoramus, who appears to have used considerable force, and probably made some efforts to extract the after-birth. The patient, before he left, called his attention to something like a cord protruding from the vagina, which he said would, perhaps, come away by piecemeal. On his visit the next day, he at first said that a protrusion from the vagina was a false conception, but afterward pronounced it a falling of the womb, which, after a considerable length of time, he succeeded in replacing, and had the anxious husband engaged for twelve hours in constructing an abdominal supporter. On the third day, Dr. Ghent removed a large portion of the placenta and membranes, a putrid mass, with a stench which "was about as much as an ordinary pair of olfactory nerves could well bear." The patient had a quick pulse and high temperature, the constitutional disturbance was easily allayed, as it seems that a "few thorough washings with hot carbolized water" was all the treatment required.

Before leaving this part of the subject now under discussion, I will briefly allude to one other point, which strikingly illustrates the difference between puerperal fever and septicæmia. I think there can be no doubt that the majority of the profession believe that all those causes of nosocomial malaria, such as aggregation, bad ventilation, contact with septic material, etc., which have a tendency to induce septicæmia in surgical cases, have an equal tendency to develop the disease known as puerperal fever in women recently confined. But this does not prove that the diseases are identical, for I think there is abundant evidence that, while these causes are always requisite for the development of surgical septicæmia, puerperal fever may be a very epidemic when these causes are wholly wanting.*

In the early months of 1873 puerperal fever prevailed in the best parts of the city, and in that class of society possessed of abundant means and living under as good sanitary conditions as are possible in any large city, to a degree and extent here unknown for the previous twenty-five years. The deaths from this disease in the hospitals and in the wards of the city where the poor are aggregated were much fewer than in many former years. In five of the best wards of the city, in which are the residences of a great proportion of those of wealth, and few of the class of dwellings known as tenement-houses, with a population of 307,046, there were 80 deaths from puerperal fever, while in the remaining wards of the city, with a population of 605,245, there were but 63 deaths. In other words, I may say that during this period, in those wards of the city where the causes of septicæmia must have existed in the greatest abundance, the mortality was nearly one-third less from puerperal fever, in proportion to the population, than in the best parts of the city, where these causes of septicæmia could have existed only in a very limited degree.

I have good cause to remember this epidemic, as the excessive work, mental strain, and loss of sleep which it brought upon me, as my medical friends know, affected my health to a degree that required nearly six years for perfect recovery. I saw ninety-five cases during this epidemic, of which nineteen were fatal. Most of the latter I believe to have been fatal in their character from the history which I received, and I only saw them once. I had three cases in my private practice, in one of which the patient died. After this, most of the ladies whom I had engaged to attend, by my advice, went out of town for their confinement, and all these had normal convalescence.

From all these considerations, I think that if all the knowledge of this disease be derived from authors who have studied it in hospitals exclusively, it will be limited and onesided, and the deductions, both as to its pathology and as to its treatment must in many instances be erroneous and unsafe. Especially must this be the case with those whose well-deserved eminence as operators compels them to be brought in frequent contact with surgical septicæmia and to witness the terrible results which this produces after the most skillful performance of such operations as laparotomy and ovariotomy. Indeed, one can hardly understand how such a surgeon, who accepts the theory and believes in the necessity of such a prophylaxis and such treatment as is insisted upon in the paper under discussion, would ever dare to enter the room of a puerperal woman.

There are many other details in this connection which I am tempted to discuss, but these will doubtless receive due attention from the speakers who will follow me. I will, therefore, content myself by expressing an opinion which will surprise many who have been carried along by the popular wave of the septic theory as the initial cause of most of the puerperal diseases. My conviction is strong, based partly on individual experience, but chiefly on a careful study of the clinical midwifery reports of private practice and all the literature of the subject in my possession—and this is very full as regards the English and

* See "Puerperal Diseases," by Fordyce Barker, Appendix, p. 515.

French languages—that, outside of hospitals, less than two per cent. of the puerperal diseases, and not half of one per cent. of the deaths after childbirth are due to septicæmia. There are no statistics of private practice which demonstrate the error of this opinion. The belief of the septicæmists that terrible dangers threaten every woman in childbirth is based wholly on theory. Because the maternal system has certain peculiarities differing from its normal condition —because the lochia are a poisonous fluid—and because there is always a certain amount of traumatic lesion in the parturient canal following parturition, every child-bearing woman incurs a most hazardous risk. This is a blunt statement of the argument and its deductions.

I do not care to summon in support of the opinion that I have just expressed any higher authority, even if it were possible to do so, than the writer of the paper which we are now discussing and from which I make the following quotations :

" And yet what are the usual results ? Recovery, uniformly, I might say universally, unless some unusual occurrence manifests itself to prevent this happy consummation. Theorizing about the matter, one would suppose that the mortality resulting from such a state of things must be excessive."

* * * * * * * * *

" And yet the facts are these : only about one or two in every one hundred parturient women ordinarily die when properly cared for during labor, even in public hospitals."

Now, if we recall the fact that a large proportion of deaths from childbirth result from the casualties of labor, such as convulsions, rupture of uterus, hæmorrhage from placenta prævia, nervous shock, etc., it will be seen that the belief which I have expressed differs but slightly, if any, from his. I certainly find it much more agreeable to refer to our points of agreement than our points of difference.

The limit of time which, in justice to others who follow, I have allowed myself, will permit but a very few remarks on " the prophylactic measures which should be adopted in all midwifery cases, whether they occur in hospital or in private practice," as the author of the paper distinctly avows. If " she who is about to bring forth " must " be treated as one about to go through the perils of a capital operation ;" if all those preparations, so definitely enumerated, which gynæcological surgeons insist upon previous to an ovariotomy or a laparotomy, are necessary in ordinary labors ; if the danger from child-bearing be so great that a wise and prudent obstetrician is justified in subjecting his patient to the hazardous depression of intense anxiety and fearful doubt as to results, and in surrounding her with the vivid apprehension of her family, instead of stimulating and cheering her with the great happiness of maternity and the hope of increased interest and love from her husband ; if all or even a considerable part of the details mentioned are necessary " to save thousands of lives which are now lost," and to spare " thousands of desolate households the sorrow of losing their female heads "—then it seems to me evident that the State should make child-bearing a penal offence for all those families who do not have a sufficient annual income to make it possible to carry out all these requirements. Such a law could only be made effective by adopting the facetious suggestion, which appeared in the *Medical Record* of January 19th, over the signature of Seth Hill, Stepney, Conn., making it compulsory for all women unable to carry out these requirements " to wear an antiseptic pad over the vulva from the inception of the catamenia until the menopause, to be non-removable without strict antiseptic precautions under the carbolic spray ;" and, to secure this pad, it would be necessary that some State official should apply the lock, which, no doubt, many present have seen in the Museum de l'Hôtel de Cluny, said to have been used by

the noblemen of France to prevent their wives from falling during their absence in the Crusades.

The description given of puerperal fever, true as it may be, in its outlines, of the septicæmia which gynæcological surgeons are so often forced to encounter, I think, will strike obstetricians familiar with the disease in the lying-in chamber as the ideal picture of a poet, differing as much from the scientific description of trained clinical observation as the pictures of natural scenery by a Byron or a George Sand would differ from a scientific description of a mountain or a lake by Humboldt.

As to diagnosis, I cannot regard the symptoms mentioned, even in their totality, as pathognomonic of septicæmia, as all of them are to be found in other puerperal affections, when there is no evidence of septic absorption, unless with the author, it be assumed that all puerperal disturbances are due to this cause alone. It is made an important point by the author to determine whether "the septic disease which is developing has originated in wounds situated between the os internum uteri and the vulva, or in the endometrium, above the former point." He says that "usually the question has to be decided by the efficacy or inefficacy of frequent germicide vaginal injections in bringing down the temperature and controlling other grave symptoms."

Now, I look at this subject from an entirely different point of view, and, as I have not the time to examine in detail the treatment inculcated in the paper we are now discussing, I must be content with the expression of my convictions by a few general propositions.

In puerperal fever, as met with in private practice, we have to treat the *consequences* of some form of blood-poisoning. This may or may not be septic poisoning. In private practice, I think it generally due to some occult, possibly atmospheric, epidemic influence; in hospital patients, nosocomial malaria, often associated with septic poisoning.

No treatment which interrupts the normal physiological processes—such as the retrograde metamorphosis of involution, the fatty transformation of the component fibres of the uterus, or the cicatrization of its internal surface by the exudation of organizable lymph, and the development of a new layer of mucous membrane, or the healing of traumatic lesions—can be justified, unless positive symptoms, now well understood in science, demonstrate their necessity.

Antiseptic injections, both vaginal and intra-uterine, are of great surface when the indications for their use are clearly shown by local signs or general symptoms, but they cannot be recommended with safety as a routine practice on theoretical grounds, as, for obvious reasons, they may be most detrimental in retarding the cicatrization of lesions and the other processes of normal convalescence, and are otherwise sometimes dangerous. In several cases which I have seen with others, where antiseptic injections, both vaginal and intra-uterine, had been used with all the care and precautions inculcated by the author and kept up for several days, the temperate rapidly fell, the profuse and sometimes offensive vaginal discharges speedily diminished, the pulse and general condition manifestly improved after the injections were discontinued.

I will only add a few words in regard to refrigeration as a means of reducing fever in puerperal diseases. I have no question that it may be useful in some cases, but my own experience in this method of treatment has not been favorable. Many years ago I tried it in several cases in Bellevue Hospital, but I soon gave it up, as the results were less satisfactory than where other plans of treatment were pursued, and I know that this was the conviction of my house staff. Cold will effectively and usefully reduce the temperature in active inflammations and acute fevers, but in adynamic diseases and in hectic fever this must be attended with a rapid waste of tissue more dangerous than the pyrexia. In three cases which I have seen with others—two a year ago and one this winter—where the

coil had been assiduously kept over the abdomen, most of the time two or three days, the conditions in which were remarkably similar, the abdomen was blanched, colorless, and not sensitive to pressure; the patients all avowed that the coil gave them great comfort, but the temperature was very high in all —in one 104·3°, and in the other two over 105°; the pulse was very rapid and feeble, the heart's action extremely weak, with pulmonary symptoms—such as short, rapid, and shallow respiration—which caused grave apprehension that there might be latent centric pneumonia. After some discussion, I induced my friends to remove the refrigerating coil, and, in its place, to cover the abdomen with flannel saturated with the oil of turpentine, for the purpose of stimulating vaso-motor action, restoring the capillary and equalizing the general circulation. All were taking quinine in large doses. This was greatly diminished or wholly stopped, and digitalis and ammonia in full doses were substituted. In a few hours the change in each of these cases was most remarkable; the temperature was reduced from two to three degrees, the pulse was greatly lessened in frequency and increased in force, and all pulmonary symptoms, which had caused so much anxiety, had disappeared. Two of these patients recovered and are still living. The third, who had also been treated by antiseptic vaginal and uterine injection, was apparently convalescent, when suddenly she became much worse; collapse supervened, which was found to be due to a sudden development of diphtheritic membranes which covered the mucous surface of the vulva and vagina, the result of carelessness and dirtiness of the nurse. The patient died in a few hours.

I now ask permission to refer to a matter outside of the question of the prevention and treatment of puerperal fever, but in behalf of the "truth of history." I ask any who may feel sufficient interest to turn to the 320th page of my work on the "Puerperal Diseases," where they will find on this and the following pages the subject of intra-uterine injections fully discussed. Instruments for this use, which had been devised more than fifteen years ago, were shown to the class, and explicit directions were given as to the methods and indications for these injections, differing in no essential from those we heard in this hall on the 6th of December. The lecture was delivered in the amphitheatre of Bellevue Hospital, in February, 1869, and the work in which it was printed was published in January, 1874. Then it may interest some to look at page 85 of Volume IV. of the "Transactions of the American Gynæcological Society," and read the papers by Dr. Edward W. Jenks, of Chicago, and Dr. James R. Chadwick, of Boston, on intra-uterine injections, and the discussion which followed.

In conclusion, I will only add that my creed to-day is fully avowed on page 476 of the book to which I have before referred, and, unless in the future I learn new facts and new arguments to change my faith, I shall "die impenitent."

Dr. T. Gaillard Thomas was then requested to close the discussion. He rose and said, Mr. President and gentlemen: When quite a young lad I was present at a murder trial which made a deep impression on my mind. When the case had been presented, the attorney for the commonwealth, who was a florid and rather bombastic orator, got up and made a speech of two hours. At its close all were very anxious to hear the counsel for the prisoner, who had a reputation for great eloquence. Judge of the surprise of the audience when he arose and quietly said: "May it please your Honor, the case is closed; I rest it here. The gentleman on the other side has made so able a speech in favor of my client that I rely upon it for his acquittal." The prisoner was acquitted. I feel very much in this way with reference to the paper of Dr. Barker, to which I have just listened with feelings which I know you, who are his well-wishers, fully share with me—feelings of surprise, regret, and sorrow.

Discussions such as this cannot fail to do good, however, for I am a great

believer in the old Latin adage, *ex collisione scintilla;* and although, in view of the very grevious errors which, according to my distinguished colleague, I have brought before the profession and suggested for its adoption, I may be preferring silver to gold in deciding in favor of speech instead of silence, I feel called upon to say a few words in simple self-defence, that first law of nature.

Our honored president has been very guarded in opening his attack upon my paper, and has seemed to feel concern lest his author should take offence at his sallies. Let me assure him and you that it would take a great deal more than such a discussion as this to weaken the ties of friendship which a quarter of a century has cemented between us, or to cause me to take exception to the criticism of one whom I have often, in times past, encountered in the lists of debate, and have ever found just, magnanimous, and courteous!

But alas! gentlemen, my adversary has to-night incautiously and, I think, unwisely ventured to use against me that dangerous weapon—a two-edged sword—ridicule. Right mercilessly has he given me one edge; let him beware of the other!

As I saw him draw and flourish this weapon a few minutes ago, I experienced mingled feelings of pleasure and of pain. In a scientific discussion, more especially in a debate which directly and immediately concerns the saving of human life, which at this very moment is being deplorably sacrificed among us, ridicule, elsewhere a powerful weapon, is the poorest and most pitiful of arguments! It is the resort of the weak, not of the strong; and, as my adversary used it just now, I said to myself, "He feels himself to be very, very weak; he totters upon his pedestal; 'tis pity that he should feel so; for otherwise that master pen which so often in times past has enchanted us would not to-night emit what carries pain to my heart and to the heart of every true friend of his in this assembly, evidences of irascibility and of irritability which are so little characteristic of his real nature; otherwise I should not be able to recognize, as all others must do, the utter want of logic, the deplorable absence of argument, the total neglect of appeal to facts, and the very conspicuous presence of signs of wounded *amour propre* which unite to form an unwholesome stream that meanders through his essay.

I shall not detain you long. I have little to say, for Dr. Barker's attack calls for no rebuttal, and demands no argument on my part. I said all that I had to say on December 6th, when the original firebrand was thrown down and picked up by the wrong end by my excellent friend. There are, however, one or two points upon which I must touch to avoid misrepresentation.

Dr. Barker declares the pathology which I have advocated to be unsustained by even the most recent researches of those whom we recognize as guides; he appears to object to the fact that I have not stuck closely to the dicta of our text-books, and hugged to my soul the tenets of a by-gone time as he has done. This is hardly fair. I strove to follow the advice of Dr. Billings when he says: "Have something to say, say it, stop when you have said it." Had I had no opinions of my own to offer you, had a practice in a large metropolis and in great hospitals taught me nothing during a period of thirty years, I should not have appeared before you. Let my adversary inform himself upon the recent views of pathologists upon this subject, and he will find that it is his views which are effete, not mine which are jejune.

So far as I can gather anything certain from his discursive paper, the pivotal idea of Dr. Barker's attack seems based upon the belief that I regard the lochial discharge as a poisonous fluid, which, by absorption, by abrasions in the genital tract, gives rise to puerperal septicæmia. I need not tell you that no such absurd idea ever obtained foothold in my brain or enunciation from my tongue. If his idea be this, he has been guilty of very superficial reading of my paper, and should not so easily have concluded that I was affected by

idiocy. Look at my essay, which is now in print, and you will see, what you already appreciate must be the fact, that I stated merely that the lochial discharge was a material ready to take on those alterations which are effected by micro-organisms of bad character, which, changing its nature, render it poisonous to the abraded tissues. I believe that you will find that the pathology which I have offered to you is abreast with the views of the advanced pathologists of Germany, France and Great Britain. As to the pathology of my adversary, Dr. John Thorburn, of Manchester, England, very justly expresses concerning it, I think, the accepted view of the profession when in a foot-note to an article upon "Metria," which appears in the *British Medical Journal* for August 11, 1883, he says: "It would be inexcusable not to make some reference to the very able papers of Dr. Napier, in the *Obstetrical Journal* for 1880, on puerperal fever. He, along with Fordyce Barker, defends the old position of a specific puerperal fever *sui generis*. The time limit imposed by our regulations allows no opportunity of consulting step by step such arguments as he adduces. I can only say that his invaluable collection of facts produces in me an opinion diametrically opposed to his own."

My critic upbraids me for want of thoroughness and for that sketchiness of detail with reference to my description of symptoms. I will merely say in answer to this that I intentionally assumed this style, as I was not preparing a lecture for a class of medical students, and that my paper was distinctly announced to be one upon "The Prevention and Treatment of Puerperal Septicæmia," and upon nothing else. I cannot but thank him for his kindness in comparing my style in this sketchy description of symptoms to that of Byron and Humboldt (I believe these were the authors with whom he compared me), but, alas! as I recall the passages to which he alluded, I am pained to confess that the similarity of style does not strike me so forcibly as it does my too partial friend.

Here let me draw the veil of pitying silence over the unfortunate allusion to the squib of Stepney and the relics of the Hotel de Cluny! We stand to-night upon ground consecrated to science by the dignified fathers of the New York Academy of Medicine, who have now passed away! We stand face to face with the terrible mortality which marks puerperal fever among us at this very moment!

And now, gentlemen, a few words as to the "prevention and treatment of puerperal fever," which is the only legitimate subject before us for discussion this evening; the only theme which should not at the very commencement of these exercises have been rigidly ruled out as irrelevant by our president.

How difficult is it in a large Body like this to keep a discussion properly directed to the points at issue! The crucial questions, Fellows of the Academy, which are before you to-night are these: 1. Are you to look upon puerperal septicæmia as a poison due to the development of micro-organisms, and are you by every means in your power to guard against the contact of these with genitalia of the puerperal woman? 2. When the disorder is developed, is it best for you to keep your patient semi-narcotized and quininized, while the distended abdomen is covered with stupes of turpentine or poultices, and await the result as has formerly been done; or are you to seek to counteract the septic process which has invaded the genital tract, by local applications? These are the momentous questions; the other points are non-essential ones, and, although important in some respects, sink into insignificance when compared with them.

Take, for example, the first of my suggestions as to cleansing the lying-in room and applying antiseptic solutions to its walls and floors before labor sets in. This seems to appear to some like one of the labors of Hercules, and a very valued friend of mine, one of the most eminent obstetric professors of this city, seems so firmly to keep his eyes fixed upon it as to allow it to draw his gaze away from others which are of tenfold its value. Now, gentlemen,

what is really the difficulty in doing this thing? In the cottages connected with the Woman's Hospital it is regularly done whenever a new patient comes in for laparotomy, which is, on an average, once a week; and whenever I operate in private practice, let the operation be as trivial as it may, I always insist upon its performance. A scrubber, and there are many women in New York who make such work a business, takes up the carpet and sends it to the naphtha cleaning works, or replaces it by rugs; she then scrubs the floor and furniture with a solution of carbolic acid or the bichloride of mercury. Then, covering a broom with a towel, she stands upon a pair of steps, and, dipping this in a bucket, she wipes off the walls and ceiling. The whole work of cleaning a chamber occupies a few hours. Dr. Lusk has said that he has never seen any good come from scrubbing furniture with an antiseptic solution—agreed; I have never seen it do any harm, and until I do so I shall feel that it is safer to resort to it. But, I assure you, I am not particularly enthusiastic about this cleansing of the chamber, nor do I regard it as by any means essential. If any one prefers to have his patient confined in a dirty room rather than a clean one, let him do so by all means; I do not gainsay it. If I need any defence for having pressed the claims of cleanliness in this regard, let it be found in the fact that he who offers rules for a system must aim high, not low; that, aim as high as he may, many will fall below the standard, and that, if a low level be assumed, no one will go above it and take a higher.

My second suggestion for prevention has reference to complete change of clothing, and the taking of an antiseptic bath by doctor and nurse before taking charge of a lying-in woman, if they have knowingly been exposed to the effluvia of septicæmia, erysipelas, scarlet fever, typhus, or any similiarly contagious affection. Will any one object to this as unnecessary or impracticable? I think not.

Yesterday, at 4 P.M., I saw in Stamford a very bad case of puerperal septicæmia; this afternoon, at 3, I performed Tait's operation in a very important case which could not be delayed. I ventured to do this only under these circumstances: this morning I took a hot bath of water strongly impregnated with salt, and after it shampooed my hair and beard thoroughly with a saturated solution of boric acid, scrubbed my hands thoroughly, by means of nail-brush, with a solution of the bichloride, 1 to 1,000, and changed every article of clothing which I had worn at the moment of exposure. The trouble was not great, nor was the process a disagreeable one. It may have done no good whatsoever, but I feel sure that it did no harm, and it certainly quieted my conscience and gave me a feeling of comfort that I could have obtained in no other way.

My third suggestion was that during labor a warm antiseptic injection should be administered to the patient by the nurse about every four hours, and that a towel wrung out of this warm solution should be laid over the vulva. Who objects to this? "If any, speak, for him have I offended." It is very soothing to the patient, and it is difficult to see how she could be injured by it.

My fourth suggestion merely relates to cleanliness of the hands on the part of doctor and nurse. The propriety of this I will not discuss.

No one will quarrel with my fifth and sixth, which merely requires the physician to attend intelligently and faithfully to the performance of the third stage of labor, and the examination for and closure of wounds about the vagina and ostium vaginæ.

I now come to the seventh suggestion—the use of vaginal injections every eight hours, beginning eight hours after delivery. The arguments which have been brought up against this practice since I read my paper have had great weight with me; I confess that I feel less firm in my convictions upon this point than I did, and that in future I shall examine the question carefully before I determine to adhere to my plan. You may ask, Why this change of

opinion? My answer is that I strive to mend the fault of yesterday with wisdom of to-day.

The rest of my rules will be so certainly agreed in that I cannot question the concurrence of all, even of the eminent gentleman, our president, who regards my efforts as so hurtful to progress and so damaging to the health of the community to whose medical guides I have made appeal.

A few words now, before closing, upon some of the means which I have suggested as to treatment. With reference to my present views upon the use of cutaneous refrigeration for the controlling of high temperature, however produced, and in the course of whatever disease occurring, I would, after a very extensive experience, say this: Were the laws of my country to prohibit a resort to this method, I would be unwilling to continue the practice of my profession, for I could not do so, relinquishing what I sincerely believe to be one of the most valuable therapeutic resources at the disposal of the physician.

With regard to intra-uterine injections, I fear that I have expressed myself in such a way as to allow it to appear that I resort to them with very little provocation and upon all occasions when hyperpyrexia supervenes after childbirth. No impression could be more erroneous. No one could have striven more than I have done to keep within proper bounds the indiscriminate use of this valuable but dangerous resource. Let me illustrate my feeling with reference to this subject in the following way: I believe that the operation of trachelorrhaphy, as introduced by my friend Dr. Emmet, is one of the greatest advances which a quarter of a century has seen in gynæcology. I believe that at the present moment it is doing a great deal of harm on account of its indiscriminate and too frequent performance, many seeming to believe that every woman who bears a child requires a resort to it. Does this militate against the great value of the procedure? Not at all. "*Uti sed non abuti*" might well have been written over its original description, as in olden times it was inscribed upon the case which held the lancet.

My friend, Dr. Barker, must here allow me to offer him a most full and sincere apology for not having accorded to him in my paper the credit which was his due in connection with the introduction of intra-uterine injections into obstetric practice. I know that he will freely forgive me when I state that the omission was due to ignorance on my part of the facts which he has stated to-night, and not to any intentional neglect.

Dr. Mundé has expressed the opinion that I have not sufficiently guarded my readers against the dangers of intra-uterine injections. As I recall my statements I cannot but feel that he is in error upon this point. I certainly strove, to the utmost of my capacity, to so depict these dangers as to put every man upon his guard concerning them.

I have not been surprised to notice, among other criticisms of the preventive measures which I have suggested, a tendency on the part of some to ignore the necessity for them, especially in private practice. That this would in all probability be done I suggested in my paper, and I came here this evening prepared to use some statistics which would invalidate this position. I shall not use those that I brought, however, but employ in their stead some which have been offered by the speakers of this evening. Dr. Hanks declares that 250 women died from puerperal septicæmia in this city last year; that is 250 to 1,000,000 inhabitants. The United States probably contains in round numbers 40,000,000 inhabitants, which would give us 10,000 deaths in one year, and in twenty years, which is about the average child-bearing time of women, 200,000 deaths. Surely this looks as if something should be done to lessen the mortality of this disease. Does the plan which I have suggested accomplish this result? Let Dr. Lusk answer. He has just told us that in Prague, before a similar plan was adopted—that is, before antiseptic midwifery

was introduced—they lost five per cent. of hospital puerperæ by septicæmia; since then 1,100 women have been delivered without a single death. I hope that I am correct in my quotation of Dr. Lusk; I think that I am—no death, against fifty-five in former times!

And now methinks I hear a whisper to this effect: "These are the statistics of hospitals; the disease must be rare in private practice, for does not Dr. A. tell us that he, out of 500 cases, has had no deaths; Dr. B. that out of 1,000 he has had none; and Dr. C. that out of 1,500 he has met with only one." Patients are constantly dying from this cause in private practice, nevertheless. It is now just two months since I read my paper, and during that time I have been called to five cases of puerperal septicæmia, four of them, at least, in the higher walks of life, and all four of the most desperate character. I prefer to state with whom these patients were seen, and I feel sure that my colleagues who called upon me will appreciate my motive and pardon me for doing so. The first case I saw with Dr. Gluck and Dr. Kucher; the second with Dr. Hutchison, Dr. Crane, and Dr. Paine, of Brooklyn; the third with Dr. Lyons, in which suppurative synovitis and abscesses had followed a miscarriage; the fourth I was called to by Dr. Loewenthal, but could not attend; and the fifth I saw yesterday in Stamford, with Dr. Janeway, of New York, and Dr. Philips and Dr. Hurlburt, of the former place.

I have ventured to give the names of the practitioners with whom I saw these cases, to prove that they occur even under the most favorable circumstances as to social surroundings and medical care.

And now, gentlemen of the academy, let me thank you for the kind and courteous attention which you have given me. It is that attention and that courtesy which have emboldened me to detain you so long. I feel very sure that you will give full credence to two statements which I make in bidding you good-night: *First.* That I have no wish to be dogmatic and uncompromising in reference to the rules which I have suggested for the prevention and treatment of puerperal septicæmia. *Second.* That if venom has seemed to flow from my tongue it has not reached it from my heart, which has been entirely free from it; and that if I have seemed to strike too trenchant blows at the honored head of our President, I have struck purely in self-defence at one for whom I yield to no man in respect, admiration, and affectionate regard.

SANITARY DEPARTMENT.

Iron Pipes.—Captain Douglas Galton has shown the advantage of cast-iron pipes for drains of houses to his countrymen in England, who will persist in using stoneware drain-pipes. Cast-iron pipes, if cast sound, prevent leakage into the subsoil beneath a house; they are almost as cheap as earthenware; they are truer in bore, and, what is of even greater value, they are not liable to breakage or fracture.

England.—By the Registrar-General's Quarterly Return for the third quarter of 1883, the number of deaths registered in England and Wales was 113,118, equal to an annual rate of 16.8 per 1,000 of population; with the exceptions of 1879 and 1881, the lowest rate since civil registration commenced in 1837. In 28 of the largest towns, including London,

and having an estimated population of more than eight and a half millions, the death rate averaged 19.9; in London it was 18.8. Of the whole 113,118 deaths, 30,331 were of infants under one year. The infant mortality, measured by the proportion of deaths under one year of age to births, was equal to 142 per 1,000. 17,869 resulted from zymotic diseases, of which diarrhœa was far the most fatal. To it were referred 8,389 deaths.

Health of Cities.—Longevity and premature decay are doubtless influenced by the food and general habits of the people, and by temperature and other local atmospheric conditions, although all these may be largely modified and brought under control by attention to sanitary laws and appliances. Artificial atmospheres are, in fact, created in large cities according to the character of the buildings, the air space allotted in them to each inmate, and the mode of ventilation and warming, as well as by the width of the streets, the sewerage, and other sanitary arrangements. Moreover, the hereditary constitutions of the citizens become in after generations affected by the condition of the cities in which they and their forefathers have lived.

The facts and figures published point to many of the causes for a great variation in the death rate, as has been shown to exist in different cities. A high death rate will in most cases be found to be the companion of defective house accommodation, ventilation, water supply, sewerage, or scavengering. Thus, for instance, St. Petersburg, with a population of nearly a million, and the high death rate of 35.2 per 1,000, is without sewerage, and its water supply is taken from the river Neva, more or less contaminated by percolation from the subsoil. Cairo, with a death rate of 37 per 1,000, is supplied with water from the Nile, having no sewers, and the sewerage filtering through the subsoil into the Nile above the water intake. Vienna, with a death rate of 29.2 per 1,000, has an average of 60 people in each house, or twice as many as in Paris, while the rateable value of the houses in Vienna is only one-sixth more than those in Paris. Pekin, with a death rate of 50 per 1,000, is without proper sewerage, water supply, street cleansing, or other proper sanitary arrangements.

A Model Unsanitary House.—At the International Health Exhibition, one of the most amusing, and at the same time most instructive, of the objects exhibited will undoubtedly be the model, on a large scale, of a house, illustrating every kind of sanitary defect; pan water-closets with D traps, baths and housemaids' sinks in direct communication with the sewers, cisterns for drinking-water into which sewer gas is carefully supplied, badly made plumbers' fittings, unventilated rooms, smoky chimneys, and many other similar evils, will doubtless be fully represented among the apparatus of this house, and it will certainly be honeycombed with cess-pools, and undermined by leaky drains. This house will be contrasted with another, as perfect in every detail as the

combined skill of the committee entrusted with the task of carrying out this scheme can make it. This Committee consists, it is said, of Captain Douglas Galton, C.B.; Professor Corfield, M.D.; Mr. Rogers Field, C.E.; Mr. Ernest Turner, C.E.; Mr. W. H. Collins, C.E.; and Mr. George Shaw, Master of the Plumbers' Company.

VITAL STATISTICS OF IMMIGRATION.—The following table gives the names of steamers, date of arrival, port of departure, number of passengers, number of deaths and births during the voyage from European ports to New York, for the month ending January 31, 1884.

		Vessels.	*From*	*Passengers.*	*Deaths.*	*Births.*
Jan.	1,	Australia,	Hamburg,	379	1	1
"	3,	America,	Bremen,	154		1
"	13,	Frisia,	Hamburg,	303	1	1
"	14,	Oder,	Bremen,	215	1	
"	14,	Amsterdam,	Amsterdam,	72	1	
"	22,	Salier,	Amsterdam,	309		1
"	25,	St. Georgia,	Glasgow,	39	1	
"	26,	Rhein,	Bremen,	262	1	
"	28,	Zaandam,	Amsterdam,	81		1
"	29,	Gellert,	Hamburgh,	448	1	
"	31,	Gen. Werder,	Bremen,	356		1
				2,658	7	6

[Remainder of this department held for next issue.—ED.]

BIOGRAPHY.

DR. JAMES MARSHALL AMBLER, U. S. N., born December 30, 1848. In 1877 he volunteered, by request of Navy Deparment, for service on the Jeannette, which was to be sent in search of a passage to the North Pole. Up to that time the idea of seeking fame among the frozen seas of the North had not been entertained by him; but, not wishing to have his name coupled with a refusal where hardship and probable danger were involved, he promptly accepted. This he certainly would not have done had he known, as he soon afterward learned, that the same offer or request had been declined by others. It presented, however, an opportunity for a display of that manly stuff of which he was made. He did not, for this reason, recede from the responsibility he had assumed, but unremittingly bent every energy to secure success to the enterprise so far as in his power lay, and to his painstaking examination as to the physical qualifications of the personnel of the Jeannette's crew, to his zeal and forethought in providing the necessities of life under the peculiar conditions to which the ship's company were to be subjected, and to his wise hygienic and sanitary suggestions, may be ascribed for

the most part the vigorous health of the officers and men, enabling them finally to encounter unprecedented labor and exposure. The immunity from that terrific scourge of polar travelers, scurvy, in which the Jeannette expedition stands prominently alone, were there nothing else, should be a lasting memorial to his professional capacity and foresight. But the mouths of the survivors of that ill-fated expedition have opened to testify how grandly he rose to all emergencies. They portray him as the genial companion, the skilful surgeon, the accomplished physician and sturdy officer. Melville, when asked by the court whom of the expedition he would specially commend for his behavior, promptly replied, "Dr. Ambler," and he was unstinted in his praise of him. During the famous retreat over the ice Ambler was one of the leading spirits. He harnessed two half-starved Esquimaux dogs to a sled of his own contriving, on which were lashed the surgical instruments, medical stores and scientific records; and leaving them to follow in the rear with the sick, the doctor took his place in advance day after day, as chief of the roadmakers. He wielded a heavy sledge hammer like a Hercules, breaking down ice hummocks to level a road for the boats. It was related of him that he invariably, when the day's work began, took up the heaviest of the sledges, thus setting an encouraging example to the men. We see him laying this down for a moment to perform an iridectomy, one of the most delicate operations in eye surgery.

After De Long's boats had reached the Lena delta, and failing to find succor for three weeks or longer, the commander decided to send two of the strongest of his party in advance to seek aid. The main body traveled very slowly, most of them being scarcely able to walk at all, and having to transport the sick. De Long was able to walk only for five minutes at a time. Ambler was the strongest of the party, and the commanding officer selected him and Nindeman to go on ahead for succor and to save their own lives, if possible, both of them being capable of a long march. When this was communicated to the doctor, he told his commander that he thought that he ought not to leave his sick, as he preferred to share their fortunes to the end, and his going away would look like abandoning them. This doubtless touched the gallant De Long, whose first thought seems ever to have been his high duty to those under his command. Noros was then sent in Ambler's stead, and his life was saved. Ambler remained with his sick comrades to the last, and died with them. It is doubtful if the medical profession affords anywhere a finer example of heroism than this. Imprisonment on board an ice-bound ship for twenty-two months, a painful retreat over weary miles of rough ice, with half-frozen hands and feet, and then wandering about on an unknown shore for three weeks, reduced to a mere struggle for existence, yet not for a moment was blunted his keen sense of professional duty. Melville, who found the bodies, is of the opinion that Ambler was the last one to die. His frozen body was found in a sitting attitude, clothed in many suits of extra clothing, seizing in his right

hand De Long's pistol, taken from his dead commander's pocket; in solemn and faithful guard over his dead comrades. None will ever know the dreadful extent of his sufferings during those last hours, or possibly days, of his life, alone with his dead, starving, exhausted and hopeless. Faithful messengers sent by his grateful Country have brought home the mortal remains of this noble son to an aged mother, to lie at rest in his own village churchyard in Fauquier county, Va. Peace to him and her, and honor to the memory of this noble surgeon, whose life was given to his country and duty.—*Jour. Am. Med. Assoc.*

PHARMACY AND THERAPEUTICS.

A COMPARISON OF WEIGHTS, MEASURES, ETC., PREPARED BY REQUEST FOR CONVENIENCE OF READERS.

FRENCH WEIGHTS IN TROY WEIGHTS.

1 milligramme	equal to	1-65th grain.
1 centigramme	"	1-6th "
1 decigramme	"	1½ grains.
1 gramme	"	15 "
1 decagramme	"	150 "
1 hectogramme	"	1,465 "
1 kilogramme	"	14,720 "
1 myriagramme	"	145,824 "

FRENCH MEASURES OF LENGTH IN ENGLISH MEASURES OF LENGTH.

1 millimetre	equal to	1-1,000th metre.
1 centimetre	"	1-100th "
1 decimetre	"	1-10th "
1 metre	"	39 37-100th inches.
1 decametre	"	10 metres.
1 hectometre	"	100 "
1 kilometre	"	1,000 "
1 myriametre	"	10,000 "

FRENCH MEASURES OF CAPACITY IN ENGLISH MEASURES OF CAPACITY.

1 millitre	equal to	15 troy grains water.
1 centilitre	"	150 " "
1 decilitre	"	1,500 " "
1 litre	"	(1 qt.) 15,000 " "
1 decalitre	"	150,000 " "
1 hectolitre	"	1,150,000 " "

NOTE.—1 grain troy is equal to 1 and 8-100ths grains in apothecary's weight.

TEMPERATURE AND WEIGHT.

1 lb. water at 60 deg. F.	equal to	79-100ths pint, or 6.067 22-100ths minims.
1 oz. " "	"	equal to 1 5-100ths fl. oz., or 505 60-100ths minims.
1 gr. " "	"	equal to 1 5-100ths minims.
1 fl. drachm water at 60 deg. F.		56 96-100ths grains.
1 fl. oz. "	"	455 69-100ths "
1 fl. gallon "	"	231 cubic inches.
1 fl. pint "	"	28 87-100 "

TEMPERATURES.

CENTIGRADE.—To convert Centigrade (C.) or Celsius to Fahrenheit—multiply by 9, divide by 5, and add 32. Thus: 40 deg. C. multiplied by 9 equal 360 deg.; divide by 5, equal 72 deg.; add 32, equal 104 deg. F.

REAUMUR.—To convert Reaumur (R.) to Fahrenheit—multiply by 9, divide by 4, and add 32. Thus: 40 deg. R. multiplied by 9 equal 360 deg.; divide by 4, equal 90; add 32, equal 112 deg. F.

PERCENTAGE OF ALCOHOL IN WINES, LIQUORS ALES, ETC.

Strong Port 25, Madeira 24, Sherry 19, Malaga 17, Brandy 53, Rum 53, Gin 51, Whiskey 52 to 54, Burgundy 14, Sauterne 14, Champagne 12 to 14, Tokaya 9, Rudesheimer 10, Catawba 8 to 10, Cider 6 to 9, Mead 7, Burton Ale 8, Scotch Ale 6, Brown Stout 6, Porter 4, Strong Claret 17, Chateau Latour 9, Hock 9 to 12, Lachryma Christi 19, Vin Ordinaire 10.

COSMETICS AND POISON.—

LOTIONS.

Preparation.	*Main Constituents.*
Circassian Cream	Corrosive sublimate.
Kalydor	Corrosive sublimate and potash.
Milk of Roses	Corrosive sublimate, rose water and ol. almond.

ENAMELS.

Laird's Bloom of Youth	Oxide zinc and calcium.
French's Grease Paint	Oxide zinc and calcium.
Gouraud's Oriental Cream	*Calomel and water.*
Hagan's Magnolia Balm	Oxide zinc.
Bradford's Enameline	Oxide zinc.
Eugenie's Favorite	Carbonate lead.
Snow White Enamel	Carbonate lead.
Snow White Oriental Cream	Carbonate lead.

POWDERS.

Preparation.	*Main Constituents.*
Pearl White	Subnitrate bismuth.
Flake White	Carbonate lead.
Saunders' Face Powder	Oxide of zinc.
Complexion Powder	Bismuth subcarbon.
Riker's Face Powder	Carbon, calcium and zinc.

ROOSEVELT (N. Y.) HOSPITAL FORMULÆ (*Druggists' Circular*).—

COUGH MIXTURES.

Mixture No. 1.

℞. Sulph. morphine ..... gr. 1-16
Chloride ammon ..... gr. 2½
Syrup tolu ..... ♏ 15
Water s. q. to ..... ℥ ij.
M. Dose, ℥ ij.

Mixture No. 2.

℞. Fl. ex. wild cherry bark ♏ 5ß
Sol. cyan. pot. { 16 grs. } aa
Sol. sul. morp. { to oz. } ♏ 15-16
Simple syrup s. q. to .. ℥ ij.
M. Dose, ℥ ij.

Codeine Mixture.

℞. Codeine ..... gr. 1-6
Dil. phosphoric acid. .. ♏ v.
Simple syrup, s. q. to .. ℥ j.
M. Dose, ℥ j.

Ipecac Mixture.

℞. Wine of ipecac. ..... ♏ v.
Muriat. of ammon. .... gr. v.
Camphor water, s. q. to ℨ ss.
M. Dose, ℨ ss.

Antimony Mixture.

℞. Tart. antim. and potass. gr. 1-24
Sulph. morph ..... gr. 1-10
Syr. wild cherry bk. s. q. ℥ j.
M. Dose, ℥ j.

Sanguinaria Mixture.

℞. Tinct. sanguinaria .... ♏ v.
Carbon. ammon. ..... gr. v,
Syr. wild cherry bk. s. q. ℥ j.
M. Dose, ℥ i.

Emphysema Mixture.

℞. Iodid. potass. ..... gr. v.
Tinct. belladon. ..... ♏ v.
Comp. spir. ether. .... ♏ xlv.
Magend. sol. morph. .. ♏ iiss.
Water, s. q. ..... ℨ ss.
M. Dose, ℨ ss.

Atropine Mixture.

℞. Sulph. atropine .....gr. 1-128
Sulph quinine ..... gr. iij.
Dil. sulph. acid, s. q.
Simple syrup, s. q. to.. ℥ j.
M. Dose, ℥ j. in water.

Children's Mixture.

℞. Paregoric..... ♏ x.
Muriate ammon ..... gr v.
Syrup squills. ..... ♏ x.
Syrup tolu s. q. to .... ℥ j.
M. Dose, ℥ j.

Hydrobromic Mixture.

℞. Dil. hydrobromic acid 10 p. c.
Spirits chloroform, of ea ♏ iv.
Syrup squills ..... ♏ viii.
Paregoric, s. q. to .... ℥ ij.

Bromide and Hyoscyamus Mixture.

℞. Bromide potass ..... gr xx.
Tinct. hyoscyam..... ℥ ss.
Camphor mixt., s. q. to ℨ ss.
M. Dose, ℨ ss.

Squills Mixture.

℞. Tinct. squills ..... ♏ v.
Wine of ipecac. ..... ♏ iv.
Syrup of tolu ..... ♏ xx.
Water, s. q..... ℥ j.
M. Dose, ℥ j. for child one year old.

Chloride of Ammon. Mixture.

℞. Chloride ammon..... gr. ij.
Syrup wild cherry bark ℥ ss.
Water, s. q. to..... ℨ j.
M. Dose, ℥ j. for child one year old.

Carbon. and Iodide Ammon. Mixture.

℞. Carbon. ammon ..... gr. iij.
Iodide ammonium .... gr. ij.
Simple syrup ..... ℥ j.
M. Dose, ℥ j.

AGARICINE.—The night-sweats of phthisical individuals have been the subject of much consideration, more especially from a therapeutical point of view. The number of remedies which are enumerated in Ringer's "Handbook" is sufficient witness of this truth. M. Seifurt of Wurzburg has recently made an interesting study of the active principle of white agaric—agaricine. After many trials, he has come to the conclusion that pills containing five milligrammes of the alkaloid give the best results in checking the excessive secretion of sweat. As with so many other drugs, the consumer becomes accustomed to agaricine, it is therefore advisable to begin with half a pill and to gradually increase the dose. Account must also be taken of the time at which to administer the remedy, as Seifert has shown that agaricine does not produce its effects for five or six hours. Not only is the excessive perspiration controlled, but the cough becomes less frequent, and sleep is more tranquil and continuous. Hypodermic injections have been employed with success, but they are not recommended on account of the production of disagreeable sensations at the site of injection.

THE DRASTIC AND VESICATING ELEMENTS OF CROTON OIL SEPARABLE.—The partial or variable solubility of croton oil in alcohol is a long-observed fact. The Pharmacographia says: "Its solubility in alcohol (.794) appears to depend in great measure upon the age of the oil and the greater or less freshness of the seeds from which it is expressed, oxidized or resinified oil dissolving the most readily."

M. Harold Senier has succeeded in separating completely the vesicating and purgative principles from each other by means of alcohol. He says: "When alcohol (specific gravity 794-800) is mixed in equal volumes with English pressed croton oil perfect and permanent solution takes place, and this is equally true when any less quantity of alcohol is used. When, however, the proportion of alcohol to oil is as seven to six, or any larger proportion of alcohol, then a part of the croton oil separates, and cannot afterwards be dissolved by any amount of alcohol. The other portion, on the other hand, is soluble in all proportions of alcohol."

The remarkable feature of the observations is that the alcohol-soluble portion appears to contain all the vesicating principle, and the insoluble the cathartic element of the crude oil. Dr. Meek experimented with the non-vesicating, and found that doses of from one-tenth to one-half of a drop produced the cathartic action of croton oil without any irritation or other disturbance, the smaller dose being a mild, and the larger a powerful, purgative, unaccompanied by any unpleasant symptoms. The vesicating (soluble) oil in the same doses gave no purgation, but occasioned a considerable amount of nausea and irritation. The latter readily produced pustulation when applied to the skin, the other did not. Further study indicated that the real vesicating element was one of the combined fatty acids, but the author has not yet succeeded in isolating it.

The above observations if supported by clinical experience will greatly increase the value of this remedy as a purgative.

ANTAGONISM OF ALCOHOL AND STRYCHNIA.—At the last meeting of the Société Française de Tempérance, Dr. Dujardin-Beaumetz read a communication on the "Treatment of Alcoholism by Strychnia" (rather a curious subject, by the way, for a mixed lay and medical audience), in which he noticed the recommendation made some time since by Dr. Luton, of Rheims, that strychnia being now recognized as the appropriate medical agent for alcoholism, the Government should authorize its addition to alcoholic beverages, in order to guard against their ill effects. Dr. Dujardin-Beaumetz, however, demonstrated, as the result of his experimental investigations and of observations made on man, that, although strychnia may be advantageously used in com-

bating the symptoms of intoxication and acute delirium caused by alcohol, it is powerless as regards the multiple alterations in different organs which are the results of the presence of alcohol in the different tissues of the economy. Strychnia, therefore, is only, at the very most, a therapeutical agent, capable of causing the disappearance of mitigation or some of the symptoms induced by the abuse of alcoholic drinks.—*Medical Times and Gazette.*

REVIEWS.

EXCESSIVE VENERY, MASTURBATION AND CONTINENCE; THE ÆTIOLOGY, PATHOLOGY AND TREATMENT. By JOSEPH W. HOWE, M.D. New York: Bermingham & Co. 1884. Pp. 299.

This work is made up chiefly of the material used in several courses of lectures, to which are added the testimony and experience of many of the best European and American experts. It is not so good a book as that of Gross or Acton; it is more comprehensive and practical than the work of Hammond; but, for many reasons, it is not a book which can be commended.

The pathology is indefinite, vague and often erroneous. The statements, so positively made, are often questionable and doubtful as to accuracy. It abounds in phrases that belong rather to newspaper advertisements than to medical science; it teaches the mischievous and untrue doctrine, that continence leads to insanity and disease; it gives erroneous views as to the wide prevalence of masturbation among women; it claims that varicocele is chiefly due to sexual abuse or excess; and shows that the author has very many peculiar views which he cannot sustain, or has not sustained in this volume.

The merits of the book are that it is free from every manifestation of an erotic style; it is written to do good, and there is in it a familiar orthodoxy in regard to treatment. It is in no sense an original work (apart from some of the vagaries and hobbies of its author); the style is below that of respectable authorship, but it may prove to be a good "pot boiler," for the title of the book will induce many to purchase it.

A PRACTICAL TREATISE ON SURGICAL DIAGNOSIS, DESIGNED AS A MANUAL FOR PRACTITIONERS AND STUDENTS IN MEDICINE. By AMBROSE L. RANNEY, A.M., M.D., Professor of Practical Anatomy in New York Post-Graduate Medical School, Etc. Third edition, thoroughly revised, enlarged, and profusely illustrated. 8vo, pp. 608. New York: Wm. Wood & Co. 1884.

When this work first made its appearance, this JOURNAL declared of it, that it represented, in the field of Surgery, all that was represented in the field of Practice of Medicine by Da Costa's classic work on diagnosis. The same opinion is again given, with pleasure. The present edition bears evidence of much excellent labor, and the work can be confidently recommended to the profession.

THE PATHOLOGY AND TREATMENT OF GONORRHŒA. By J. K. MILTON. Fifth edition. Wm. Wood & Co.

This work, though dogmatic and arbitrary, as well as chaste and elegant in its

style and elaboration, is largely original. It is the outgrowth and record of a large venereal practice in the great city of London. Those who have exhausted their old ideas and prescriptions will find it very useful and suggestive. Wild oats are sown at all seasons; it has always been so; and as long as the old Adam is a part of the new, it will so continue. Gonorrhœa is the pioneer as well as one of the characteristics of civilization, and as long as this is the case, doctors are always glad to know how to treat its victims. This book, for such a purpose, will be useful and convenient. It is a valuable one.

First Annual Address before the Washington (D.C.) Obstetrical and Gynæcological Society. By Samuel G. Busey, M.D., President. October, 1883. Reprint from the *American Journal of Obstetrics*, N. Y. New York: W. Wood & Co. 1884.

This is a very excellent paper. It is practical, philanthropic (in the highest sense), scientific, and is prepared with great care and fidelity.

The object of the author is, in brief, the condemnation of the operation of craniotomy. He condemns, after a careful and liberal examination of all of the views of its advocates, a resort to this barbarous proceeding.

It has always been claimed, and usually admitted, when "turning" is impossible, and a resort to the vectis and forceps impracticable, that craniotomy is not only justifiable, but imperative; and while, in obedience to the teachings of the Roman Catholic Church, many excellent obstetricians have declined to practice craniotomy, and many equally accomplished have so postponed the performance of this operation as to imperil, if not to sacrifice, the mother as well as the child, it has certainly been the teaching in the profession, that craniotomy must be performed, when delivery *per vias naturales* is impossible on account of malformation of mother or child, and when "turning" is impossible, and the use of the vectis or forceps is productive of no effective results. Indeed, the majority of the best teachers teach now, and have taught, that, under such circumstances, the practitioner is justified in giving up the child, and in sacrificing its life to save "the more valuable life" of the mother.

So much for the professional position and belief which the author undertakes to remove and subvert. His belief is that craniotomy is unjustifiable. He shows, in defence of this view, that, in timely Cæsarean sections, 74 per cent. of women and 84 per cent. of children have been saved; and that in the Porro-Cæsarean operation, 23 per cent. of mothers and all the children have been saved. These results are justly comparable with 84 per cent. of recoveries of women, and the loss of all of the children after craniotomy.

If these statistics are to be accepted as those which can, reasonably, be expected to obtain under the present improved treatment of the mother in cases of craniotomy, it must be admitted that the author of this address has fairly made his point, and proved that the operation of craniotomy should be regarded as barbarous, and unjustifiable. So may it be.

Voice, Song, and Speech: A Practical Guide for the Use of Singers and Speakers; from the Combined View of Vocal Surgeon and Voice

TRAINER. By LENNOX BROWNE, F.R.C.S., and EMIL BEHNKE. New York: G. P. Putnam's Sons. 1883.

A great part of this work is devoted to an examination of the anatomy and physiology of the chest and larynx, and to the laws of sound! All of this material is "padding," and is entirely useless, as it is to be found in other and better works. A large portion (39 pages) is given to the discussion of the laryngoscope and its uses! Much of it is devoted to the hygiene of the voice and the vocal apparatus; to the habits of the singer; to vocal ailments, and to defects of speech.

It contains a number of old woodcuts, or reproductions of them, and gives thus poor designs of what has elsewhere been presented well. There is some evidence of original research, and there are some excellent photographs of the larynx during the production of high notes. It is a book that may please the people, but all that is original, or that is germain to the subjects named, could have been presented in a few pages. This loss to the authors would have been great gain to the readers. The volume will doubtless be read generally by vocalists and those of their circle. It has a quasi scientific appearance and air, and will give to vocalists some conception of the organism by which they earn a livelihood.

A YEAR-BOOK OF THERAPEUTICS FOR 1883. Edited by R. W. AMIDON, M.D. 8vo., pp. 247. Price, $1.50. New York: G. P. Putnam's Sons.

This book is a compilation only, and a very poor one. It is not comparable with Brinton's Compendium, or Braithwaite; it is limited in scope, inaccurate and inefficient in execution, and sold at a price more than double of that asked for much better and more useful information published in the medical journals indicated. Books of this class are indeed a nuisance, and reduce the work of authorship to almost the level of that of the scavenger. It is to be hoped that they will disappear entirely.

PER-OXIDE OF HYDROGEN. By A. E. PRINCE, M.D., Jacksonville, Ill. Reprint from *St. Louis Medical and Surgical Journal*, March, 1884.

The object of this paper is to demonstrate the great value of per-oxide of hydrogen in the treatment of suppurative conjunctivitis and mastoid abscess; with a report of two cases.

The treatment was by injection into the suppurating cavities, and the results were simply marvelous. Indeed, in the cases cited, and in cases similar, any other treatment is confessedly unsatisfactory, if not wholly inefficient; and if the author is as entirely correct in his views as he has been in his practice, no eulogy would be extravagant of the effects of this agent in suppurating cavities. His paper, with the recent valuable paper of Dr. E. J. Nunn, of Savannah, Ga., on the same subject, really marks an era in therapeutics.

A PLEA FOR THE CURE OF RUPTURE; OR, THE PATHOLOGY OF THE SUBCUTANEOUS OPERATION BY INJECTION FOR THE CURE OF HERNIA. By JOSEPH H. WARREN, A.M., M.D. Boston: James R. Osgood & Co.

This is, in mechanical execution, a very handsome pamphlet. It is a very

ingenious and plausible argument for the author's favorite operation, injection of the fluid extract of white oak bark to produce adhesive inflammation. He gives a table of twenty-eight cases of all varieties of hernia.

Report of the Secretary of the State Board of Health for West Virginia for 1881, 1882, 1883. Wheeling, West Virginia.

This volume is a great credit to all concerned in its production, and it reflects conspicuous honor upon the Secretary of the Board, Dr. James E. Reeves, of Wheeling, West Va. Indeed, while many have done good work for the volume, its design, the elaboration of the materials for it, its general conception and handsome execution, are due almost entirely to the Secretary. The papers presented are all good, some excellent; and a few of a very high order of merit. The readers of this journal will have the pleasure of reading some of them very soon. Some were ready for this number, but the papers and debates on puerperal fever rendered their insertion impracticable. This report is one of the best ever published. The report strongly shows that the execution of law regulating the practice of medicine may be safely lodged with a State Board of Health. It will be very useful as a campaign document in those States that are now struggling for a State Board of Health, particularly in Ohio and Pennsylvania. It shows not only thorough medical registration and police in West Virginia, but also great attention to sanitary matters, including studies of the diseases of domesticated animals. This shows that a State Board is useful to farmers as well as it is to doctors: indeed, useful to all classes of the people.

The Hip and its Disease. By V. P. Gibney, A.M., M.D., Professor of Surgery New York Polyclinic; Asst. Surgeon Hospital for the Ruptured and Crippled, Etc. New York: Bermingham & Co. 1884. Pp. 412.

This is a very useful work. It is comprehensive and yet concise. The chapter on bursitis is highly creditable, and the material, so far as is known, is original in appearance and arrangement. The book is worth having, for this chapter, even though the rest were valueless, which is very far from being the case. That an author on the hip should be "hipped" as to the treatment of hip disease is not strange, but it is true. Dr. Gibney seems to look to rest, as the sailor looks to his sheet anchor in the storm, as the only hope, the mainstay, the only salvation. Mechanical treatment he repudiates in comparison, and operative procedure is apparently wholly repudiated. It is a good work, nevertheless, and one which will be a good and positive addition to the best library.

The Medical Directory of Philadelphia for 1884. Edited by Samuel B. Hoppin, M.D. Philadelphia: P. Blakiston, Son & Co., 1884.

This book will be useful to many. It is neatly printed and conveniently arranged. It is said, however, to be inaccurate by the Philadelphia press, and if this be so, such defects will, of course, be speedily corrected. It is hoped that the publishers will be amply repaid for their labor and outlay.

Pallisser's Useful Details. By Pallisser & Co., Bridgeport, Conn.

This is really a series of handsome maps and charts, by scale, of a great variety of dwellings, in every variety of style and architecture. A most useful

and valuable collection. Every doctor who wishes a Queen Anne dwelling—and, of course, in these days of few doctors, large practice and abundant receipts, every doctor wishes one—should send for maps and drawings. Any plan can be and will be faithfully given and sent.

BOOKS AND PAMPHLETS RECEIVED.

LEGAL MEDICINE. By Charles Meymott Tidy, M.B., F.R.C.S. Vol. III. New York : William Wood & Co., 56 and 58 Lafayette Place. 1884. Pp. 321.

ANNUAL REPORT OF THE HEALTH DEPARTMENT OF THE CITY OF BROOKLYN, N. Y., FOR 1883. Brooklyn : Printed for the Corporation. 1884.

HUTCHINSON'S ILLUSTRATIONS OF CLINICAL SURGERY. Fasciculus xvi. Plates 59 to 62. Philadelphia : P. Blakiston, Son & Co. Price, $2.50.

ANNUAL REPORTS 1883. Department of Health of the City of Charleston, S. C. Charleston, S. C.: *The News and Courier* Book Presses. 1884.

THE MEDICAL DIRECTORY OF PHILADELPHIA FOR 1884. Edited by Samuel B. Hoppin, M.D. Philadelphia : P. Blakiston, Son & Co. 1884. Price, $1.50.

OPTICO-CILIARY NEUROTOMY, AND MISCELLANEOUS SURGICAL CASES. By Francis L. Parker, M.D. From Transactions of the South Carolina Medical Association, 1882.

SURGICAL AND OTHER CASES OF DISEASE OF THE EYE, EAR, THROAT AND NOSE. By Francis L. Parker, M.D. From Transactions of the South Carolina Medical Association, 1882.

FIRST, SECOND AND THIRD ANNUAL REPORTS OF THE SECRETARY OF THE STATE BOARD OF HEALTH OF WEST VIRGINIA FOR THE YEARS ENDING DECEMBER 31ST, 1881, 1882, 1883. By Authority. Wheeling : Chas. H. Taney, State Printer. 1884.

ANNUAL ANNOUNCEMENT OF THE COOPER MEDICAL COLLEGE, SUCCESSOR TO THE MEDICAL COLLEGE OF THE PACIFIC. San Francisco. Session of 1884. San Francisco : *Alta California* Book and Job Printing House, 529 California Street. 1884.

TRANSACTIONS OF THE MEDICAL ASSOCIATION OF THE STATE OF MISSOURI, at its Twenty-Sixth Annual Session held at Jefferson City, Mo., May 15, 16 and 17, 1883. St. Louis : Ev. E. Carreras, Steam Printer, Binder and Publisher, 117 and 119 Locust Street.

PALLISSER'S USEFUL DETAILS. By Pallisser, Pallisser & Co., Bridgeport, Conn.

THE RECIPROCAL ATTITUDE OF THE MEDICAL PROFESSION AND THE COMMUNITY. Alexander Hutchins, A.M., M.D. Brooklyn, N. Y.

CLINICAL SURGICAL CASES. By Francis L. Parker, M.D. From Transactions of the South Carolina Medical Association, 1883.

METHODS OF MEDICAL INSTRUCTION. By Herman Knapp, M.D., New York.

PER-OXIDE OF HYDROGEN. By A. E. Prince, M.D., Jacksonville, Ill.

NEW YORK STATE MEDICAL ASSOCIATION, FOUNDED FEBRUARY, 1884.

GALVANIC BATTERIES IN MEDICINE. By Drs. Julius Radisch and Geo. W. Jacoby, N. Y.

FIRST ANNUAL ADDRESS. By S. C. Busey, M.D., Washington, D.C.

CONTAGIOUS AND INFECTIOUS DISEASES. CIRCULAR NO. 2. By Joseph Jones, M.D., New Orleans, La.

ARREST OF DEVELOPMENT, BY INTRA-UTERINE PRESSURE. By H. F. Hendrix, M.D., St. Louis, Mo.

CIRCULARS, BUREAU OF EDUCATION. Washington, D.C.

ANNUAL ADDRESS BEFORE AMERICAN ACADEMY OF MEDICINE. By Henry O. Marcy, M.D., President, Boston, Mass.

REMOVAL OF THE OVARIES. By Thomas H. Hawkins, M.D., Denver, Col.

COLLEGE FOR MEDICAL GRADUATES, St. Louis, Mo.

ANNUAL REPORT OF NEW YORK ORTHOPÆDIC DISPENSARY AND HOSPITAL.

RECENT PROGRESS IN DISEASES OF THE NERVOUS SYSTEM. By Talbot Jones, M.D., St. Paul, Minn.

TWENTY-FOURTH ANNUAL REPORT STATE ASYLUM FOR INSANE CRIMINALS, AUBURN, N. Y.

IS EXTIRPATION OF THE UTERUS JUSTIFIABLE ? By A. Reeves Jackson, M.D., Chicago, Ill.

RECIPROCAL ATTITUDE OF THE MEDICAL PROFESSION AND THE COMMUNITY. By Alexander Hutchings, M.D., Brooklyn, N. Y.

HYGIENIC INSTITUTES. By George A. Smyth, M.D., Burlington, Vt.

PHYSICIANS FORMULARY OF SUGAR-COATED PILLS AND STANDARD PHARMACEUTICAL PREPARATIONS. By Wm. P. Warner & Co., Philadelphia, Pa.

MEDICAL ANNALS OF BALTIMORE. 1884.

THE AMERICAN JOURNAL OF OPHTHALMOLOGY. St. Louis, Mo.

SHAKESPEARE AS A PHYSICIAN. By J. P. Chesney, M.D., St. Joseph, Mo. St. Louis : J. H. Chambers, Publisher.

ANEURISM OF THE FEMORAL ARTERY. By W. O. Roberts, M.D., Louisville, Ky.

MISCELLANEOUS.

The Sims Memorial Fund.

TO THE MEDICAL PROFESSION AND OTHERS THROUGHOUT THE WORLD:

The great achievements of Dr. J. Marion Sims call for some more lasting testimonial than obituaries and eulogies. To him medical science is indebted for much brilliant and original work, especially in gynæcological surgery. Those who have been benefited by his teachings and new operations, and such as have had the direct advantage of his personal skill, are among the first to recognize and acknowledge this debt.

To him is due the honor of giving the first strong impulse to the study of gynæcological surgery in America.

It is believed that the medical profession everywhere, the vast number of women who owe their relief from suffering directly to him, and those who realize the benefits he first made possible, will gladly unite thus to honor the man through whose original and inventive genius such blessings have been conferred upon humanity.

At the suggestion of many friends, therefore, the subjoined committee has been organized, and it is proposed that a suitable monument be erected to his memory in the City of New York.

To this end the active co-operation of the medical profession and the many other friends of Dr. Sims throughout the world is respectfully solicited. Contributions of one dollar and upward may be forwarded to this journal which has been constituted the treasury of this fund—*The Medical Record*, New York.

Fordyce Barker, M.D., Chairman.
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T. Addis Emmet, M.D., New York.	H. F. Campbell, M.D., Augusta, Ga.
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T. A. Reamy, M.D., Cincinnati, Ohio.	E. A. Woodward, M.D., Brandon, Vt.
C. D. Palmer, M.D., Cincinnati, Ohio.	Alfred Crosby, M.D., Concord, N. H.
G. J. Engelmann, M.D., St. Louis, Mo.	E. S. Dunster, M.D., Ann Arbor, Mich.
R. Beverley Cole, M.D., San Fr'sco, Cal.	A. J. Stone, M.D., St. Paul, Minn.

Other names may be added to this list from time to time. Over $4,757 paid in.

Phthisis Conveyed from Man to Dogs.—In the *Archives of Medicine*, Dr. E. G. Janeway relates a number of cases of phthisis, illustrating its possible contagiousness. Among others was the case of a phthisical young man who kept a pet dog. He was accustomed to sleep with the dog nestling in his arms. The animal became affected with a cough, and subsequently died. Another dog shared the same fate; a third dog suffered from a cough, but its owner died of phthisis, and the dog subsequently recovered.—*Medical Record.*

Carbolized Sawdust in Antiseptic Surgery.—Mr. H. P. Symonds, Surgeon to the Radcliffe Infirmary, advocates the use of this material as a dressing for wounds. He says: "One of the drawbacks of the usual antiseptic dressing is the rapidity with which the discharges come through on the first day or two after operation, often necessitating the redressing of the case within a few hours. To prevent this, and yet not to interfere with the aseptic condition of the wound, is a distinct advantage both to the patient and the surgeon. The material I have used recently in a considerable number of cases is coarse sawdust, soaked in (1 in 10) solution of absolute phenol and spirit of wine, then allowed to dry slightly, so that the spirit may evaporate, leaving the sawdust charged with carbolic acid. When used it is enclosed in a bag made of several layers of gauze, and applied outside the deep dressing, the usual external dressing being put over it. The sawdust thus takes the place of the padding of loose gauze which is generally used. Its absorbent power is very great, and it has the additional advantage of keeping up an equable pressure on the divided tissues. I find that fourteen ounces of sawdust will readily absorb about one pint of liquid." He reports five cases, two of amputation, two of operation for tumor of the mammary glands, and one of compound dislocation of the elbow, in which it was used. In all these cases primary union took place without any formation of pus. In only one did the temperature reach 100°, and that on the day after operation, after which it became normal. "I have not quoted these cases as being at all remarkable, but merely as common instances in antiseptic surgical practice in which the sawdust dressing was used. Surgeon-Majof Porter, in *The Surgeon's Pocket-book*, states that he has used sawdust as a dressing in suppurating offensive wounds; but I am not aware that it has been tried, when prepared in the way I have described, in antiseptic dressing. The three points in its favor are its powerful antiseptic qualities when saturated with carbolic acid, its great absorbent power, and its adaptability to any surface. I may add that the sawdust should be coarse, as I find that if it is very fine it passes through the gauze and irritates the skin."—*Lancet.*

Lister and the Spray.—Dr. Henry Gray Croly publishes the following letter from Mr. Lister on this subject in the *Medical Press:* "I have not given up the use of the spray, although I certainly regard it as the least important part of our antiseptic arrangements. Whatever other good it may do, it is a very mild form of antiseptic irrigation, and tends to keep the *entourage* of the wound, including the surgeon's hands and instruments, pure. But if I had not a spray producer at hand, I should not on that account omit other elements of antiseptic treatment. I still use the spray in changing dressings, so long as the wound is not merely superficial. But far more important than using the spray is it to make a point of covering the wound with some pure aseptic material before beginning to wash the parts which were covered with the edge of the dressing only, and were, therefore, impure. In other words, I believe one of the commonest causes of failure is dabbing alternately the impure surrounding parts and the pure wound with the same piece of rag, which, though moistened with carbolic lotion, cannot work miracles.

The Diagnostic Value of the Bacillus Tuberculosis.—Dr. Austin Flint, at a meeting of the New York Medical and Surgical Society, stated that he had made this question a subject of clinical study; and, so far as his experience had gone, it confirms the value of the presence of the bacilli in the sputa as positive proof of phthisis, their absence being of more or less value in the exclusion of that disease, and the importance of their comparative abundance and scarcity as bearing on the question as to whether the disease was or was not actively progressing.—*Maryland Medical Journal.*

THREE CALCULI, weighing collectively 414 grains, were removed from the urethra and neck of the bladder, by Dr. J. W. Howe, who reports the case to the New York Surgical Society.

MADRAS'S GREEN SUN.—Some excitement is stated by the Indian papers to have been caused among the people of the Madras Presidency by the fact of the sun having recently presented a bright green appearance, particularly near the time of setting. Prof. Michie Smith, in commenting upon this phenomenon, observes that as far as he can discover the appearance of a green sun is very uncommon. Mr. Lockyer, however, once observed the sun to be of a vivid green when seen through the steam of a little paddle boat on Lake Windemere, and this circumstance, he thinks, points to a solution of the difficulty, and shows that the cause of the appearance is an unusual amount of aqueous vapor in the atmosphere, existing as actual vapor, and not condensed into clouds. Some experiments with the spectrum, of which Prof. Smith gives the details, appear to confirm this hypothesis.—*London Daily News.*

THE INSANE CANNOT COMMIT SUICIDE.—The Supreme Court of the United States has decided that a policy of life insurance is not made void by the suicide of the insured person while insane. The insured person in the case that came before the court was Israel Ferguson, and the insuring company was the Manhattan Life. Ferguson hanged himself in Central Park, on April 14, 1876, and the company refused to pay, on the ground that it was expressly provided in the policy that if the insured should die by suicide the policy should be null and void. In the Circuit Court for this district judgment was rendered for Ferguson's heirs, and upon appeal the Tribunal of Last Resort has affirmed this judgment, with costs and interest. The Supreme Court holds that self-killing by an insane person is not a death by suicide within the meaning of the condition inserted in the policy. The brief report of the decision received from Washington does not show in what way the insanity of Ferguson was established before the court. The decision is one of peculiar importance, even if it refers only to the suicide of persons whose insanity is admitted, and can easily be proved. But there are eminent men who hold that the act of suicide alone is sufficient proof of insanity, and that no perfectly sane man destroys his own life. If every person who commits suicide is insane, then, under this decision, it is useless to insert in any policy of insurance such a condition as was found in Ferguson's policy, and an insurance company will save time and money by promptly settling with an insured suicide's heirs.

HOW TO SLEEP ON A RAILROAD TRAIN.—Many weary persons have tried to solve this problem, and have tossed about for hours in restless disappointment. Dr. Outten, a German physician, has applied the laws of physiology to the matter and announces (*Allg. Central Zeitung*) a satisfactory solution of it all. If a person lies down with his feet toward the engine, the movement of the train tends to draw the blood from the brain to the feet, cerebral anæmia is produced, then sleep. If, on the other hand, the person lies with his head nearer the locomotive (as is the custom in Germany), the movement of the train produces a cerebral hyperæmia incompatible with sweet repose. Dr. Outten has verified his view with many experiments.

INEQUALITY OF LIMBS AS TO LENGTH.—A member of the Royal College of Surgeons states in *Nature* that of seventy well-authenticated skeletons which he examined, the lower limbs were equal in length in only seven instances; the right leg was longer in twenty-five cases, and the left in thirty-eight instances. It is claimed, therefore, that this will, in persons walking without knowing their

surroundings, make their step longer with one limb than with the shorter one, and thereby tend to produce traveling in a circle, as people do when lost in the woods. In most of the skeletons referred to the right arm was longer than the left.

PROFESSOR, to class in surgery: "The right leg of this patient, as you see, is shorter than the left, in consequence of which he limps. Now, what would you do in a case of this kind?" Bright student: "Limp, too."

THE NUMBER OF PHYSICIANS IN NEW YORK CITY.—Some special inquiries having been made of us regarding this, we would say that the total number of physicians and surgeons in New York State in 1880, according to the United States Census, was 9,272. This number has now undoubtedly swollen to 10,000. In what, for distinction's sake, may be called the "Physician's Medical Register for 1883-4," a list of only 2,684 names is given, which number represents the regularly educated physicians in affiliation with regular medical societies. The remainder are composed of homœopaths, of whom there are probably 500 or 600 in the State, eclectics and nondescripts.—*Ex.*

MEDICAL NEWS.

DR. FRANCIS M. GUNNELL, Surgeon U. S. N., has been made Surgeon-General U. S. Navy. He is a native of Washington, D. C., graduated at Georgetown University, has been in the Medical Corps 35 years, and 17 years at sea. He is evidently a hard-working man, who has rendered excellent service, and has had but little time or opportunity for dawdling at Washington "receptions" and fashionable "hops." If he makes as good an officer as Surgeon Wales did, the department will be fortunate indeed. That he will do well and his best is evident from his record.

DR. FORDYCE BARKER, of this city, has had conferred upon him, by the University of Edinburg, Scotland, the degree of LL.D. A worthy honor most worthily bestowed.

MEDICAL REFORM in medical education is most marked now at the South; Virginia, West Virginia, North Carolina and Alabama have each a Medical Examining Board, before which every one seeking to practice in those States must come for examination and certificate or license.

MEDICAL PRACTICE IN KENTUCKY.—A bill has been introduced in the Kentucky Legislature to regulate the practice of medicine in that Commonwealth, the principal feature of which is to allow no one to practice medicine in Kentucky without first procuring a license from the county court clerk, of the county in which such practice is to be engaged, and before the clerk shall issue such license, the applicant must exhibit a diploma from some creditable medical college, or produce satisfactory evidence that he has been engaged in the regular practice of medicine for ten years preceding the passage of the bill.

STATE MEDICAL SOCIETY OF ARKANSAS.—The ninth annual session will be held at Little Rock, on Wednesday, April 30, Thursday, May 1, and Friday, May 2, 1884, commencing at 10 A.M., on Wednesday.

The Insane.—A recent issue of the *Psychological Journal* gives the increase of the number of insane persons in the United States at, from 1850 to 1860, 8,432; 1850 to 1870, 13,380; 1870 to 1880, 54,565. The whole number of the insane is given at 1,997; idiots, 76,895. More than one-half are not under hospital treatment.

Distribution of Medical Students.—Of the 9,700 medical students in 1882–83, in regular medical colleges, 2,146 were in New York colleges. After New York comes Pennsylvania, with about half the number (1,088), then follow Illinois, 900; Ohio, 800; Missouri and Kentucky, each about 600. In homœopathic students Illinois is far ahead of any other State, having 422 matriculates. Then follow Ohio, 197; New York, 187; Pennsylvania, 147; Massachusetts, 109.

Fraudulent Butter.—Forty million pounds of hog fat, cotton-seed oil, and other kinds of grease, preserved from decomposition and deprived of nauseating odors by means of nitric acid and other chemical agents, and containing only a trace of real butter, have been annually sold in the State of New York.

Ex-Gov. Dr. Blackburn is about to inaugurate a private sanitarium, in Louisville, Ky., for inebriates and lunatics.

The New York Society of Medical Jurisprudence is endeavoring to have passed in this State a bill similar to the Michigan act, by which there can be an ante-mortem probate of wills, thus avoiding the question of sanity which so often comes up after the maker of the will has passed away. The bill provides that the testator shall be examined by a commission able to determine upon his sanity at the time the will is made.

Dr. C. W. Thomas, formerly of Richmond, Va., died at Sladesville, Hyde County, N. C., March 10, 1884, aged 45.

He graduated in 1862 at the Medical College of Virginia, with distinguished honors, and at once entered the Confederate service. He was in the expedition as surgeon which captured the Federal steamer *Water Witch* in Ossibaw Sound, Georgia, and after the fall of Georgia he was transferred to Charleston, S. C., under "Raphael Semmes," and was on the *Charleston* iron-clad when she attempted to run the blockade. He was one of the last to surrender at the close of the war. Since then he has practised his profession at different points with moderate success. He was a native Virginian, having been born in Richmond, and educated at William and Mary College. He was a courteous and polished gentleman, and a consistent member of the Episcopal Church. Devoted to his profession, he never failed to answer any call made upon him, whether he received pay for his services or not. His wife was a member of the well-known family of Haskins, of Powhatan County, Va. She died in North Carolina about seven years since. He leaves three sons and one daughter, all young. They are being educated and cared for by his brother, J. W. Thomas, Jr., a druggist of prominence in Norfolk, Va.

A Lost Medical Work.—At the annual meeting of the Obstetrical Society of London, Dr. Aveling mentioned that the society had some time since asked Dr. Fordyce Barker, of New York, to have made for them a transcript of Woolveridge's "Speculum Matricis." This book, published in Dublin in 1670, is the earliest original work on midwifery in the English language, and the only copy known to exist was in the possession of Dr. Fordyce Barker, who, at the request of the society, employed a man to copy it. This person absconded with the volume, and died in Europe. Thus, it is feared, the only copy of this work has been irretrievably lost.

Recoveries After Hanging.—The earliest case on record is that of Tiretta de Balsham, whom Henry III. pardoned in 1264 because she had survived hanging. . . . . Females, however, appear to have had more such escapes

than males. Dr. Plot gives several instances, one, that of Anne Green, who, in 1650, came to when in the hands of the doctors for dissection; another of Mrs. Cope, hanged at Oxford, in 1658, who was suspended for an unusually long period, and afterward let fall violently, yet she recovered, only to be more effectually hanged next day. A third substantiated case was that of half-hanged Maggie Dickson, who was hanged at Edinburg in 1728, and who, from the jolting of the cart in which her body was removed from the gallows, recovered. . . . Sir William Petty, the eminent surgeon in Queen Anne's time, owed his scientific fame to his having resuscitated a woman who had been hanged. The body had been begged, as was the custom, for the anatomical lecture. Petty, finding symptoms of life, bled her, put her to bed with another woman, and gave her spirits and other restoratives. She recovered, whereupon the students subscribed to endow her with a small portion, and she soon after married and lived for 15 years!—*The Chronicles of Newgate.—Griffiths.*

Alexander Wood, M.D., F.R.S.E., F.R.C.P.E.—Another prominent member of the profession in Edinburg, Dr. Alexander Wood, has been removed by death. He died on February 26, after a brief illness. The deceased was the son of the late Dr. James Wood, of Edinburg, was born in Edinburg and educated there; he graduated M.D. in Edinburg University in 1839, and in the subsequent year became a Fellow of the Royal College of Physicians, of Edinburg. He entered upon practice in Edinburg with a very large measure of success. Owing, however, to the state of his health, he was compelled to relinquish this some years ago. In his earlier years he was closely associated with the late Sir James Y. Simpson in his memorable experiments with anæsthetics. To Dr. Wood the profession is indebted for the introduction of the hypodermic injection of drugs by the hollow-needle syringe. If there be any doubt as to his merit as the inventor of this method of medication, there can, at least, be none as to the important part he took in giving an impulse to hypodermic medication, which now forms so powerful a weapon in the armory of practical medicine. In 1855, he published a paper on a "New Method of Treating Neuralgia by Subcutaneous Injection."

Number of Graduates.—

College of Physicians and Surgeons, Baltimore	127
Medical Department, University of New York	167
Bellevue, New York	149
Homœopathic, New York	53
St. Louis Medical College, St. Louis	34
St. Louis College of Physicians and Surgeons	28
Missouri Medical College, St. Louis	102
N. Y. College of Pharmacy, including two female graduates who won none of the honors	71

The Kentucky State Medical Society meets this year at Bowling Green, on June 3d, instead of May 7th, as first announced.

The Louisiana State Medical Society meets this year at Baton Rouge, May 21st. Dr. J. P. Davidson is president, and is making special efforts to have a large meeting. There is need of a greater interest in State societies on the part of some of the Southern States.

Bills before the New York State Assembly.—The following bills are favorably reported: Incorporating the New York Cancer Hospital. Incorporating the Good Samaritan Dispensary in New York. Legalizing all medi-

cal degrees and diplomas granted by the United States Medical College in New York. The bill making the Health Officer of New York a salaried officer was reported adversely.

The Medical Department of the Arkansas Industrial University held its commencement exercises at Little Rock, on March 3d, and graduated a class of thirteen.

Recent Ruling of the U. S. Treasury Department.—X. Dried lizards, intended for ultimate use as medicine: Held to be dutiable at 40 per cent. ad valorem, under paragraph 93 for medicinal preparations, and not to be free of duty, under paragraph 636, for non-edible dried insects. (Letter to the Collector of Customs at San Francisco.)

There is at present in the medical department of the University of Kharkoff, in Russia, a first year's student named Dzeetchakovski, whose age is 60 years. He was at the Warsaw University in 1863 as a third year student in the medical course, but he was exiled to Siberia for taking part in the Polish Insurrection, and his exile was not terminated until last year, when, with other Poles, he was allowed to return to Europe. He has now resumed his studies.

Dr. C. Theodore Williams.—The condition of Dr. C. Theodore Williams has not continued to improve. Although the fever had entirely subsided at the end of the third week, abdominal pains continued to recur; and, in the fifth week, the temperature rose to 102°, and on three days to 103°, with distinct indications of peritoneal inflammation.

"Confederate War Papers," by General Gustavus W. Smith, has already reached a second edition.

The Legislature of Connecticut, in session at Hartford, passed a bill recently prohibiting the sale, for hotel or family use, of any ice cut from waters made impure by sewage, mill refuse, etc.

The New York Court of General Sessions has decided that the law obliging medical graduates of other States to have their diplomas countersigned by a New York College, is void.

Typhoid Fever.—M. Jaccoud, in an analysis of a large number of temperature charts in typhoid fever (*Journal de Médecine*, February, 1884), shows that the general impression as to the average date of the attainment of the maximum temperature in that disease is not correct. Not the sixth to eighth day, but the fifth represented the maximum; in fact, it was not very rare for the maximum to be reached on the second day. In the light of these observations it evidently is unsafe to exclude typhoid on the score of having a temperature of 104° F. on the second or third day. The examination of these charts showed that precocity of the fever constituted a rather unfavorable element of prognosis.

Virginia Board of Medical Examiners.—All must rejoice with their friends in Virginia over the passage of the bill creating a Board of Medical Examiners in that State. By the terms of the law no person shall, after January 1st, 1885, practice as a surgeon or physician, for compensation, without having first obtained a certificate from this Board, and cause his name to be registered in the manner prescribed. The bill provides that the Board shall consist of

"men learned in medicine and surgery, and shall be appointed by the Governor on the first of November, 1884, and every fourth year thereafter, from a list of names to be recommended by the Medical Society of Virginia."

A BILL to regulate the practice of medicine and the sale of medicines in Utah was passed by the Legislature, but vetoed by the Governor, Eli Murray, at the solicitation of certain patent-medicine men.

THE Annual Meeting of the Association of American Medical Editors will be held in Washington, May the 5th, at 8 P.M., in Medical Hall, Southeast corner of Sixth and F streets. The Annual Address will be delivered by President Leartus Connor, M.D., on "The American Medical Journal of the Future, as Indicated by the History of American Medical Journals in the Past." Dr. N. S. Davis will open the discussion on "How far can Legislation aid in Elevating the Standard of Medical Education in this Country?"

THE BACILLUS OF TUBERCULOSIS is ridiculed by Virchow.

OLD AND NEW MEDICAL JOURNALS.—In 1883, 55 new journals were started on the track and 15 died.

THE *Journal of the American Medical Association* has taken the trouble to fill up two columns with a full translation of a scurrilous and personal article upon the *N. Y. Medical Record*, as printed in an obscure and obscene French journal.

THE WOMEN'S MEDICAL COLLEGE, of Philadelphia, held its annual commencement, at the usual time, and degrees were conferred on a class of twenty-six, including one lady from Burmah.

"TRAUMATIC APOPLEXY" is the euphemism under which a coroner's jury has expressed its opinion as to the death of a student in Yale College, who died shortly after having been knocked down in a sparring contest with one of his fellow-students.

ACCORDING to the *Lyons Médicale*, women practiced medicine and surgery over a century and a half ago. There were then in Lyons forty-three master surgeons and thirteen widows of surgeons in regular practice. All doctors' widows had the right to practice medicine and surgery.

INTERNATIONAL PRIZE ESSAY ON CRIMINAL ANTHROPOLOGY.—*La Rivista di Discipline Carcerarie* offers a prize of 2,000 lire (£80) for the best essay "to exhibit the progress made in the present century (in Italy and elsewhere) in the study of criminal anthropology, and the theories upheld by the most competent writers; to examine the facts and statistical figures adduced in support of such theories, and to compare them or to combat them with other facts and with other statistics." The prize is open to all comers. The essays must be written either in French or in Italian, and must be sent to the *Direzione della Rivista di Discipline Carcerarie* not later than December 31st, 1884.

AGAINST FEMALE PHYSICIANS.—PHILADELPHIA, April 2.—At a largely attended meeting of the Philadelphia County Medical Society a proposed amendment to the constitution permitting the admission of female physicians to membership was defeated by a vote of 79 yeas and 48 nays, it requiring a two-thirds vote for the passage of the amendment. The admission of females has several times before been denied by the society.

EDITORIALS.

MEDICAL OFFICERS ON TRANS-ATLANTIC STEAMERS.—A DEPLORABLE AND DANGEROUS CONDITION.—The defective medical service and the want of efficient sanitary administration upon trans-Atlantic steamers has recently been the subject of prolonged and vigorous agitation in England. The press, both medical and secular, has, with united voice, denounced the existing and dangerous system, the medical societies have unanimously adopted resolutions condemning it, and the British Medical Association has both memorialized and interviewed the President of the Board of Trade. As yet, however, no reform has been instituted, for commercial cupidity has no conscience, and British shipowners are a powerful and united Body, who determinedly resist what, even in the least degree, might curtail their power or reduce their profits.

Americans must, therefore, awaken to their own interests, and enforce their undoubted right to protect themselves against a constant and grave danger which has in the past been attended with most disastrous results. The medical officers of these steamers are now appointed by the owners of the vessels, and without regard to age, professional experience, qualification or character. As a consequence, it appears that of 141 surgeons, who during the first six months of 1882 had full medical charge of English steamers carrying passengers to America, no less than sixty would have been ineligible, through lack of the minimum professional qualification, for any medical appointment in the English army, navy, prison, asylum, or poor law services. Which, to show the danger and disgrace of such a condition, may be presented thus: Of the surgeons (?) who, during the period named, were entrusted by British steamship owners with care of the health and lives of American citizens of all degrees, nearly one-half would have been pronounced incompetent, by British law, to hold even a junior office in the treatment of British convicts or paupers.

It is stated that the hospitals on board these steamers are generally insufficient, often ill-placed, and sometimes taken from the surgeon's control and devoted to other purposes than the accommodation of the sick; that even on the largest and finest vessels there is no dispensing or hospital steward, and no proper provision for the care of the sick and the suppression of infectious diseases. The surgeon, in matters of general sanitary administration, is, as a rule, a mere puppet in the hands of the captain and owners. Under such circumstances, it is not surprising that a high mortality should exist among the passengers to this port on all European lines.

In the latest addition to a splendid fleet carrying annually its thousand upon thousands, and patronized even by royalty, the surgeon's

room measures five feet eleven inches by five feet three inches, is without any window or port hole, and is situated below in a narrow thwart-ship passage, the door being opposite to and within thirty inches of the door of the passengers' water-closets. Everything else on this vessel is magnificent to a degree. The saloon, to seat about 200, is gorgeous and in perfect taste; the steerages, for about 2,000, exceed the requirements of the law; the captain is allotted two fine rooms, in one of which alone probably twenty persons could sit with comfort; yet for the surgeon, who has sole charge of the health of these persons, and on whose skill any one of them may depend for his life, this wretched hole, absolutely useless for any other purpose except a clothes' press, or, perhaps, another water-closet, is deemed sufficiently good.

On one line the surgeon is paid £9 for each month that he has conducted himself to the satisfaction of those placed over him; but he is obliged to sign the "articles," or contract, between employer and employed at the rate of one shilling per month, which is, therefore, all that he can legally claim, while the remaining £8 19s. is held as a security for his good behavior. This principle is applied to no other member of the crew except the surgeon, unmistakably implying that his employers regard him as the most untrustworthy and probably ill-conducted man on board ship. Indeed, as is very often stated, he is commonly remunerated at about the same rate as that allowed to the steward, cook and carpenter.

Hence it follows that the conditions of the ship-surgeon's position are so very unfavorable, that suitable men can seldom be retained for any considerable time; and those sent out in medical charge of crowded passenger ships are frequently either too young and inexperienced for the responsibility placed upon them, or are men whose want of health or proper character would preclude them from other positions of medical trust. Dependent upon these causes there is among passengers a much larger amount of sickness, and a far higher mortality, than is justified by the necessity of transit.

The *New York Tribune*, of March 18th, publishes a lengthy interview with Dr. J. A. Irwin, who, although resident of this city, has been leader of the movement in England. The facts elicited would have been incredible were they not founded upon official statistics, parliamentary returns, and other equally indubitable evidence. The steamship agents will follow the traditional tactics of absolute denial, with which all are familiar who have followed the details of a "Castle Garden Investigation" into the complaints of immigrants. The usual routine is as follows: The passengers declare, upon oath, that during the voyage the steerages were filthy, the food bad, and the sick neglected. On the other hand, any number of stewards and other ship officials are ready to swear that everything was exactly as it should be—the steerages washed out twice daily, the food excellent, and the most tender care lavished upon all invalids. The bread is represented to have been sour, but the captain

produces an unexceptionable loaf which is precisely the same as was used throughout the voyage. The potatoes were black and unwholesome ; the purser exhibits a magnificent tuber, probably the finest which Jefferson Market (N.Y.), could produce ; and so on. The commissioner then decides that nothing can be done upon such contradictory evidence, and nothing more is heard of the matter until the next complaint, when a similar farce is enacted with the same result.

The moral to be deduced from such facts is, that United States passenger legislation will never be effective until it provides for a competent and independent inspection, not only at the beginning and end of the voyage, but *throughout each voyage.*

The British colonies have long recognized the necessity of such a precaution. Every vessel carrying emigrants to Queensland, New South Wales and New Zealand, has on board a medical superintendent who is appointed by the Government of the colony, invested by it with the fullest authority over everything connected with the health and comfort of the passengers, and is entirely independent of the captain, owners, or shipping interests. The result is declared upon all sides to be eminently satisfactory.

Have not the United States an equal right to protect their future citizens? And as this right cannot be doubted, shall it not be promptly exercised and faithfully and rigorously enforced?

Nutrition and Insanity.—There is such a thing as mind-strengthening work. In truth, it is, as every physiologist knows, only by work that minds, or, more correctly speaking, brains, can be strengthened in their growth, and naturally developed. The exercise of those centres of the nervous system with whose function what we call consciousness and intellect are associated, is as essential to their nutrition as activity is to the healthy growth of any other part of the organism, whether nervous or muscular. Every part of the living body is developed, and enjoys vitality, by the law which makes the appropriation of food dependent upon, and commensurate with, the amount of work it does. It feeds in proportion as it works, as truly as it works in proportion as it feeds. This canon of organic life is the foundation of those estimates which physiologists form, when they compute the value of food in measures of weight-lifting power. It is, however, necessary to recognize, that although these propositions are true in the abstract, they need the introduction of a new integer or combining power, before any sum of results can be worked out. We know that food is practically just as truly outside the body after it has been eaten, digested, and even taken into the blood-current, as it is when it lies on the table. Nutrition is a tissue-function, and its performance depends on the appetite and feeding power—which is something different from the organic *need*—of the tissue with which the nutrient fluid is brought into contact. Again, any particular part of the organism may be so exhausted by work that

it has not power enough left to feed. It is a matter of the highest practical moment that this fact should be recognized. There is undoubtedly a point at which work ceases to be strengthening and becomes exhausting—self-exhausting and self-destructing so far as the particular tissue in activity is concerned. The once accepted hypothesis of a separate system or series of trophic nerves is nearly, if not quite, discarded. While we believed in the existence of special nerves of nutrition as possible, it was at least permissible, in a scientific sense, to suppose that recuperation might take place by the nutritive power of these nerves after the last reserve of potential energy had been converted into kinetic force and consumed in work, because the two forces—the force for *work* and the force for *nutrition*—were supposed to be generated by, and accumulated in, different centres. Now, however, that we have ceased to think that the faculty and function of nutrition have been relegated to a special part of the nervous system, it is easy to see—in truth, the conclusion is forced upon us—that work may be carried too far, in fact to such a point that not only the last reserve of power for action, but the ultimate unit, so to say, of the force of nutrition, which is, as we now believe, identical with the force of general activity, may be expended in work, and the organism left so utterly powerless that its exhausted tissues can no longer appropriate the food supplied or placed within their normal reach. We have said that it is necessary this should be understood. It has a special bearing on the question of brain work in childhood and adolescence.

Just as extreme weakness and faintness of the body as a whole produce restlessness and loss of control, so extreme exhaustion of the brain produces mental agitation and loss of healthy self-consciousness. This is how and why the "overworked" become deranged. One of the earliest indications, or *symptoms*, of brain exhaustion is commonly irritability ; then comes sleeplessness of the sort which seems to consist in inability to cease thinking either of a particular subject or of things in general ; next, the mental unrestful or uncontrollable thought gets the better of the will, even during the ordinary hours of wakefulness and activity, which is a step further towards the verge of insanity than the mere persistence of thought at the hour of sleep—this way lies madness —and, finally, the thinking faculty, or, as we say, the imagination, gets the better of the will, and asserts supremacy for its phantoms : those of sight or of hearing being the most turbulent and dominant which happen to be most commonly used in intellectual work, and therefore most developed by the individual cerebrum : this *is* madness. Such is the story of overwork of the brain or mind ; and it is easy to see that at any stage of the progress from bad to worse the will may be overpowered, and the judgment perverted in such manner, as to impel the victim of this mind-trouble to seek refuge in death ; or to so disorder his consciousness that he supposes himself to be acting in obedience to some just and worthy behest, when he commits an act of self-destruction, or does some-

thing, in the doing of which he accidentally dies. Such, in the main, is the story of suicide from overwork.

What, then, can be the excuse pleadable by those who heap on the brains of the young or adolescent such burdens of mind-labor and worry as exhaust their very faculties of self-help and leave them a prey to the vagaries of a starved brain? We pity the suffering of those shipwrecked sailors who, after exposure in an open boat, perhaps without food, for hours or days, "go mad" and, raving of feasts and pleasures, the antitheses of their actual experience, fall on each other, or throw themselves overboard. Have we no pity for *brains* dying of lack of food because we have compelled them to expend their very last unit of force in work, and now they are distraught in the act of dying? These considerations are suggested by the story of the recent suicide of a pupil teacher, and by the great and pressing politico-social question which similar cases have raised. It may be that other motives for or influences to self-destruction may be discovered, when the most recent case of suicide reported comes to be more closely investigated. We lay no stress on this particular incident; we only regard it as one of too many occurrences which serve to illustrate our argument, and should enforce our appeal in favour of moderation. It may be a sublime ideal, that of a highly-educated people, but if it should happen that the realisation of this beautiful dream of our philosophic reformers can only be achieved by the slaughter of the weak, it will scarcely console the national conscience to reflect that, after all, "the survival of the fittest" is the lawof Nature.

This elaboration on the part of the editor of the *London Lancet* is very ingenious, very plausible, and even very beautiful; but it will not bear successfully the test of even the most superficial analysis; indeed, it may be justly termed one of the fairy-tales of science. It is impossible for any one to establish a relation between nutrition and sanity, or malnutrition and insanity. Many of the worst lunatics are large eaters and excellent bloodmakers, while many of the most complete dyspeptics, and many suffering from mal-assimilation, have the mental balance wholly undisturbed. No one has ever established, and no one can establish, any relation between anæmia or even spanæmia and mental alienation. In diseases chronic in character, where there is even waste of tissue coincident with mal-assimilation and failure of nutrition, there is no mental disturbance. The consumptive, daily consumed by his disease, and failing to maintain even the balance of nutrition, so far from being disturbed in mental balance, is often remarkable, to the last, for the brightness and vivacity of his intellect. There is not only no relation between mal-nutrition and insanity, but there is not even any proportion manifested between the extent of feeding and the strength or resiliency of intellection. The axiom laid down by the *Lancet*, or attempted to be laid down, of the individual that "feeds in proportion as it works, as truly as it works in proportion as it feeds," is so manifestly fallacious, that it is almost needless to demonstrate its fallacy. Some

of the greatest brain-workers (the most absolute of all workers), when consuming their best strength, usually eat least, while the heavy feeders are notoriously not only indolent, but even lethargic in nature and habit. Club-men, who gorge themselves daily and through life, do no work: so of society men, and the idlers of the world. They live, apparently, chiefly to feed; they neither work as they feed, nor do they feed as they work.

The greatest brain-workers have done the hardest work while they have eaten least, and were through life small eaters and poor blood makers. Balzac, Scott, Cowper, Bulwer, Byron, Longfellow, Darwin, Gladstone, Alexander Stevens, and very many who have been mental giants in labor, as well as capacity, eat but little always, and assimilated badly. They never eat as they worked, nor worked as they eat. It is all a fallacy.

The blood is often even starved in disease, functional and organic in character, but it is impossible to say that mental alienation bears to this condition any possible relation whatever. The *Lancet's* very beautiful effort must be pronounced very pretty indeed, but it is one of the fairy-tales of science.

Ghosts.—The London Society for Psychical Research has discovered that there is an enormous number of ghosts in England. Haunted houses are as plentiful as boarding-houses, and some of them are densely packed with ghosts. Before the society began its researches, it was supposed that there were very few resident ghosts in England. Proprietors of haunted houses carefully concealed the fact that they had ghostly tenants, lest it should hinder them from obtaining flesh and blood tenants, and people who had been compelled to abandon houses because they were haunted, feared to mention the fact lest they should be ridiculed. Thanks to the society, we can now form some idea of the ghost population of England. It is estimated that in London alone there are thirty thousand ghosts who reside permanently in their respective haunted houses, besides a floating population of about three thousand ghosts who visit London without the intention of remaining there.

There are many persons who would like to make acquaintance with ghosts, but hitherto they have had no means of finding out the residences of desirable ghosts. It is true that a man could, if he chose, advertise for a ghost, but it is more than doubtful if any ghost would see and answer the advertisement. Moreover, were any one to advertise for a "sober, middle-aged evangelical ghost—one who does not break furniture and who never frightens children preferred"—the advertisement would immediately be ridiculed by graceless newspapers. With a view of supplying a long-felt want, the Society for Psychical Research is now preparing a ghost directory, giving the names, residences, business, and general reputation of all the ghosts in the United Kingdom. Any one desiring to make the acquaintance of a ghost has only to consult this

directory. In it he will read of "James Smith, No. 2 Bloomsbury square. Born 1665; murdered 1720. Quiet and gentlemanly ghost; walks in the two-pair front bedroom, with a knife in his heart;" or of "Crazy Jane, No. 64 Minories. Age unknown. Shrieky and chain-rattling ghost; performs regularly at 1 o'clock A.M., but is rarely visible. Can be recommended to married men whose mothers-in law frequently visit them." In this directory any one can find just the style of ghost of which he may be in search, and although the compiler of the directory does not guarantee the character of his ghosts, and cannot be held responsible if they prove unsatisfactory, great confidence can no doubt be placed in the honesty and care with which his work is performed.

The compiler in question is without doubt one of the boldest men now living. Has he reflected that no man ever yet compiled a directory free from mistakes? Does he know that the man whose name is omitted from a directory, or whose name is spelled incorrectly, or whose residence or business is incorrectly stated, hates the directory compiler with a hatred that cannot be appeased? Such a man can call on the compiler of the directory, or write to him, and denounce him as a forger and an idiot; but he cannot proceed to acts of personal violence without danger of falling into the hands of the police. There is, however, no limit to the ways in which a mispelled or misrepresented ghost can wreak vengeance on the unfortunate compiler of the Ghosts' Directory. That the compiler will make mistakes is a foregone conclusion; in which case he is certain to be haunted to an extent that will make life a burden to him. If he makes only fifty mistakes he will make at least fifty deadly enemies among the ghosts, and he should ask himself, What will life be worth to a man haunted by fifty simultaneous, infuriated, and utterly irresponsible ghosts? No words can fitly express the bravery of the compiler who incurs this tremendous risk, and he will certainly be a madman within a month after the publication of his directory—unless, indeed, he is a madman already.—*Times.*

THE "MEDICAL BUGLE."—It is marvelous how much alike all young medical journals are at the commencement of their existence; so much so, indeed, that were it not for their covers, one could scarcely tell which journal was held in the hand.

Each one tells the same old familiar story: what wonderful success it has had, how it is appreciated, how letters come pouring in congratulating the editor on his success; how Dr. Gasbag has called in, and said that it was the best journal he had ever seen, that he wanted it, that his friends wanted it, that indeed everybody wanted it, that the profession could not do without it; and then the editor tells how Gasbag had paid his subscription, and had said that he wanted the journal as long as he lived, or the journal lived, etc.

Then come extracts from letters, of kind friends, full of good wishes and bright hopes. And the young editor thinks that there never was

such an editor, and that the world believes that there never was such a journal: and all is roseate and bright and beautiful. And the young editor is so full of plans—he is going to blow his bugle, and, at the blasts of it, medical societies will be formed in States as thickly as are scattered plums in Christmas puddings; and reforms are to be made in the old ones; and the old men and the young are to gather together and debate sweetly and eloquently; and reports are to be given which will show that this long-buried treasure would never have been brought to light but for the clarion blasts of the bugle.

And then the young editor is going to found medical colleges and hospitals, and give to native talent its long-needed stimulus and opportunity; and the poor are to have blessed ministrations of gifted native clinicians, that the world may know, even in remote Gileads there is balm, and that there are physicians there, etc.

Ah! it is the same old, old story: years, young friends, will roll onward, even as they did before the medical bugle awoke the echoes with its strident and clarion blasts. Old Gasbag will run up a long bill and never pay it; going scrupulously, in turn, to each neophyte to gladden and seduce him with his siren song. Many will do like him, but many, too, of Nature's noblemen, will be found true as steel, and faithful as fidelity; their names will be "as familiar as household words." And still the world will roll on, and the young editor will become gray and worn; and if his journal still lives, he will find his work to be, even as the young Græcian sculptor found the marble idol which during a lifetime he had chiseled: more prized by himself than by others; many equal to it, many far better.

Yet, young friends, lay not down the chisel; every blow, if well bestowed, converts dead material into actual form, and, if life lasts, fortune crowns the labor. The dormant conception may yet spring into a welcome ideal; and some there may be, perhaps, who will yet come and say of the work, it is "good."

All welcome, then, as well all hail, to the medical bugles; but would that some kind spirit could compose for their owners some air which was not quite so old, and some blast which was not quite so familiar.

The Louisville Medical College (Ky.) is very unworthily and unjustly censured by the medical press. That some of its subordinate officers have been officious in correspondence, and have made unwarranted and unwarrantable offers is very probable, but that any of the Faculty have done, or authorized others to do, more than is done by a very large number of medical Faculties, is most improbable.

It will be remembered, or ought to be remembered, by all who wish to be just, that it was this college which, in August, 1869, accepted and obeyed the unanimous resolution of the American Medical Association, to the effect that $120 should be the minimum charge in all American medical colleges for professors' fees; that the Western medical colleges had a

"cheap-fee convention" three months afterwards, and, repudiating the action of their delegates and that of the American Medical Association, returned to the cheap-fee abomination. It was after this act, and in consequence of this act, that the Louisville Medical College established a general system of "scholarships" at reduced rates. It was the effort to "fight the devil with fire," and it was successful. Why had not and why have not the Western medical colleges the manliness to meet the offer made by the Louisville Medical College? Why will they not charge, and why have they not charged, the $120 as a minimum fee? They profess to teach as well as do the Eastern medical colleges; but instead of showing their faith by their acts, instead of competing fairly with these Eastern colleges, *they buy students*, by offering to take them at $70 each, or for $70 less each than is charged by all of the respectable Eastern medical colleges.

The Western medical colleges must be undervalued, and must be content to be undervalued, and will be undervalued, so long as they admit that they are afraid of a fair and just competition with Eastern schools, and buy a class to secure one. The only true course for them is to accept the offer of the Louisville Medical College, publicly made fourteen years ago, to charge every student not less than $120 for his professors' tickets. This is the only true, manly, and decent course.

The thousand graduates of this college are entitled to this defence. The Faculty needs no defence. The whole fee system of the Western colleges is unsound, unjust to able teachers, and needs reformation. Graded courses are failures. Length of terms is immaterial; so is the length of the undergraduate period. What is needed in every State is one public tribunal, before which must come every applicant for graduation or practice. When this is done, the Louisville Medical College will justly enjoy the position to which it has always been absolutely entitled.

The Puerperal Fever Debate.—In this valuable and instructive debate, Dr. W. F. Lusk seems to be unconscious of the fact, that his reasoning is manifestly faulty, and his inculcations, based thereon, mischievous. Speaking against the use of uterine injections when suspicious evidences of septic poisoning are manifest, he teaches that these uterine injections, as advised by Dr. Thomas and others, are useless; saying that "washing the uterus after the pelvic tissues are invaded does not prevent the development of puerperal septicæmia." In defence of such a plea (it is no argument), he says that "washing the arm the day after vaccination does not prevent the development of vaccinia." If there were any analogy whatever in the two cases, this assertion would be entitled to consideration, if not to respect; but it is so manifest, that there is no analogy between the vaccine matter and that which produces puerperal fever, that any argument to demonstrate this is useless. If, however (to use the arm illustration selected),

an arm that was abraded was brought so long into contact with septic matter as to produce septic fever, does Dr. Lusk mean to say that it would be useless to wash away this matter, and keep the arm clean; or does he claim that it would be sound practice to allow this poisoning to go on? Does he, in effect, deny the whole truth on which rests the cardinal principle of drainage in treating septic wounds and surfaces? It is true that uterine washings too long postponed could not prevent a septic poisoning already existing, but would they not prevent "the *development* of puerperal septicæmia?" To teach that because a practitioner, from a failure to use uterine washings in suspicious cases, had allowed septic poisoning to begin, he was to allow (by abstaining from proper cleansing) this septic poisoning to go on and become more dangerous, is certainly so erroneous, so illogical and so injudicious, as not to need further comment for its condemnation.

Too Many Graduates.—A Widely Spread and Manifest Error of the Press.—Very many persons who do not think carefully have endeavored to show, by the statistics of several countries, that the United States do not need any more physicians, and that the graduation of about 2,500 students annually must lead to disastrous results.

It has been claimed that, whereas Germany has 1 physician to 3,200 inhabitants, France 1 to 1,200, Great Britain 1 to 1,600, and the United States 1 to only 600, that this country is already largely overstocked with doctors. Any one must see that unless the density of population is also considered, and relatively considered, all such claims are illogical and worthless, really not worth the paper on which they are written.

Thus, in France there are about 203,811 square miles, and on these are collected about 40,000,000 inhabitants, or about 200 persons to the square mile; while in the *United States* there are about 4,200,000 square miles, and on these are about 42,000,000 inhabitants, or about ten persons to the square mile. It is at once apparent that the French physician who attends 200 persons can do so by moving in one square mile; while the American physician who attends 200 persons must drive over 20 square miles for this purpose. In other words, the proportion of physicians to population is absolutely immaterial, unless the density of population be considered.

It should be borne in mind, also, that the number of physicians who die, change their avocation, move away, or become helpless from disease or old age, is not regarded by those who become hysterical over the fact, that about 2,500 medical students are annually graduated in this country.

Circular to the Medical Profession of Texas.—A very excellent circular has been issued to the physicians of Texas, for the purpose of collecting and embodying such influential facts as will secure efficient laws for the suppression of charlatanism and all irregular practicing in Texas, and for the exclusion from the limits of the State of all who have

not, by legitimate means, secured the right to practice medicine and surgery. Texas, as a State, is peculiar in its medical organization. Within its borders are to be found a large number of some of the most accomplished physicians of the United States, and with these an army of blatant medical demagogues, arrant charlatans, and brazen quacks. It is full time that the true grain should be winnowed from the worthless chaff, and the medical profession and the general public secured in their rights and in their safety by the enactment of efficient and much-needed laws.

Every physician in Texas who is interested in this great subject should give to it his whole influence, and thoroughly co-operate with those who went to Belton, in April, and gathered the facts and the material for securing proper legislation.

This circular is prepared with great care, ability and judgment. It is signed by Drs. George Cupples, T. R. Chew, G. W. Christian, J. W. Fennell, and Otto Grube.

Louisville (Ky.) School of Pharmacy.—The Legislature of Kentucky has somewhat surprised the State Board of Pharmacy, by embodying in the bill incorporating the Louisville School of Pharmacy for Women a clause which provides that all graduates, or those holding certificates of proficiency, shall be authorized to keep "open shop for the sale of medicines and poisons and for the compounding of physicians' prescriptions, or to act as an aid or assistant to any person keeping such open shop." Consequently, no graduate of this school will have to apply to the board hereafter for registration. The bill was engrossed and signed by the Governor, and is now a law in full force and effect.

This is rewarding the gallantry of the members of the State Board of Pharmacy even beyond their expectations; or (shall it be so said of gallant men), beyond their desires. But it is all as it should be. Females, if competent, should be druggists; it is a new and good field for them. And then so many doctors will go to these drug stores and stay there, and will learn so much about prescriptions, that they will not be asking for them always, and buying books and journals made up of nothing else. Of course, they will offer to do the mortar and pill-board work for the fair druggists, and so they will come to really know enough of pharmacy to write their own prescriptions.

The Discussion on Cold Applications in Enteric Fever.—The paper in which Dr. Sidney Coupland introduced the subject of the application of cold in enteric fever, at the discussion before the Medical Society of London, was one of no ordinary magnitude or importance; it could in reality, with all its appendices, tables and charts, rank rather as a monograph, and no doubt it will shortly see the light in some permanent form. Dr. Coupland, while not altogether accepting the percentage obtained by Brand, who, by the collation of some sixteen thousand cases,

arrived at the conclusion that the mortality, by the systematic use of the cold bath, had been reduced from 21.7 per cent. to 7:4 per cent. or about two-thirds, evidently leaned to the opinion that the application of cold did diminish the mortality (his own per centage is 7.8), but that to obtain the desired effect it was necessary to begin the treatment before the end of the second week. Brand has maintained that cold applied early and systematically not only lowers the temperature, thus diminishing the injurious effects of the pyrexia, but actually prevents the development of the characteristic intestinal lesions. Dr. Coupland brought forward some evidence in its favor, and earned the commendation of Dr. Bristowe, who followed him with a clever criticism of the statistical method.

The Editor of the "Medical World," of Philadelphia, claims that he has been so worried and badgered by his subscribers, about the small price asked for his journal, that, to oblige them, he has consented to raise the price from 65 cents to a dollar a year. It is to be hoped that the increased remuneration will repay him for his generous sacrifice.

What he will do with this increase of thirty-five per cent. in his receipts he does not say, but it is to be expected that he will either give it to the Bartholdi Statue of Liberty Enlightening the World, or to sending a corps of medical missionaries to Japan. In some such way he will have the pleasure of obliging a large army of subscribers, and, at the same time, have the satisfaction of not having charged more for his journal than, in his judgment, it is really worth.

Unhappy editor! He alone has had the unique experience of being compelled to sell his journal to clamoring purchasers at a price nearly one-half more than he believes it to be worth. The sufferings of editors are far greater than is believed; but this is a sorrow which no one, even among editors, could have anticipated. It will command universal sympathy.

The Differences in Form of the Adult Head.—At a meeting of the New York Academy, held February 21st, Dr. John C. Dalton made an address on the above subject. A short time ago, he said, he had become interested in the method of comparing the differences in the adult human head, which was afforded by the machines which hatters are accustomed to use for getting the exact size and shape of the heads of their customers at the level at which the hat was usually worn. He had secured a great variety of paper patterns representing different heads, and had been furnished with no less than 360 of these from one hat store in New York. According to their shapes, the heads were divided into medium, long, and round, heads. One hundred being taken as the standard of width, if the length were between 120 and 130, the head was a medium one; while if the length was under 120, it was a round one; and if over 130, a long one. In addition, the heads varied greatly in regard to the comparative width of the back and front parts and the

symmetry of the two sides. Some, again, were perfectly curvilinear, while others presented angles and straight lines.

The Oyster Months, or those containing the letter "r" in their names, have gone, and it is therefore, of course, unsafe any longer to eat oysters, unless some one can invent a new method of spelling the summer months. It has been seriously claimed that, in the period of Julius Cæsar, another day was added to the month of February, at the solicitation of the epicures and oyster dealers, and that astronomical reasons were not even considered in arranging the Julian Calendar.

Some oyster dealers have even been enterprising enough to sell oysters in August, and in their bills spelling the month Orgust, but physicians had at once to be called to all eating such oysters, and they have found that unless the "r" could be introduced into the word in some more philological manner, it would be unsafe to indulge in this shell-fish during the month mentioned. What influence the letter "r" has upon the digestibility of the oyster, science has not yet determined. In some inexcusable way Dr. Beaumont did not subject Alexis St. Martin to this experiment. It was a great opportunity forever lost.

State Ingratitude.—Contrasting the higher honors conferred on successful generals with the treatment of men of science, the *Scotsman* considers it anomalous that a man like Parkes, whose life-work was devoted to the beneficent end that armies might be kept safe from outbreaks more fatal in war than shot or shell, should go to the grave scarce noticed by the country he had served so well, and that Farr, the founder of the science of vital statistics, whose generalizations are now accepted maxims in dealing with the health problems of dense populations, should, after a life of drudgery at the desk, sink under the weight of years, leaving those nearest and dearest to him dependent on others, while the State and the world continue to profit enormously by his unrequited services. But it also acknowledges that distinctions conferred by the State are not the goal towards which our noblest minds strive, and that the love of truth and of humanity form incentives enough for the highest work.

Something New: Giving Pills and Powders by the Mouth.—*The Medical Age* recently gave several formulas for administering pills and powders of mercury *per os* (by the mouth). As this method of administration was, of course, uselessly specified, this Journal, in noting the fact, added: "This is something new; how is it done?" *The Age* now quotes *from authorities* to prove that *per os* is correct; as if the fact had been denied! It says that an A.M. ought to know better; that the profession in this country usually write *per orem*, but that *its* editor does not make such blunders!!! Well, brother, you will see the joke —after awhile.

Perfect Digestion.—In its very next paragraph, *The Age* appropri-

ates the whole of that anecdote, as to "the biceps of the bear and the man," without a word of credit!! Its digestion is very complete; so complete, indeed, that the very source of its food is completely concealed. Well, brother, good food is the secret for good blood, and good blood produces *an improved circulation.*

THE ANNUAL REPORT OF THE COMMISSIONER IN LUNACY furnishes some interesting facts in regard to the institutions for the insane in the State of New York. The population of the State is about 5,000,000, and the number of insane is 14,000, of whom 11,343 are in public care and custody. The latter are found in State asylums, almshouses, county asylums, and private asylums. There are eight State asylums, four of which receive only the acute insane, two receive only the chronic insane, one is devoted to the insane criminals, and one receives only insane immigrants. The four asylums for acute insane received during the year 1,116 patients; the total number under treatment was 2,427; the number discharged was 742, of whom 309 recovered, 175 improved, 268 unimproved; 25 were not insane; 149 died. The percentage of recoveries on admissions was 27 7-11, and on the whole number under treatment 12 2-3; the deaths were 6⅛ per cent. of the entire number under care. The two asylums for chronic insane admitted 367, and discharged 193.

THE NATIONAL PHARMACOPŒIA.—The *American Druggist* makes the following contribution to history:

"It is rather remarkable that, when Dr. E. R. Squibb proposed, a few years since, to change the method of organizing the convention so as to place the revision of the work, practically, under Government auspices, as provided for in Randall's recent bill, the leading opponents of the plan were Philadelphians, and that their principal effort was to show that the plan then in operation is the one to be preferred. The Convention of 1880 was called, and the subsequent revision was conducted accordingly; but the convention adopted measures which reformed the methods of revision and *removed the control of the work from Philadelphia.* It becomes, therefore, of interest to inquire whether the recent 'change of base' manifested in the 'City of Brotherly Love' can have any relation to the removing of the locality of the office of publication?"

MALT EXTRACTS.—It appears that unfair and disreputable men have been at work undertaking secretly to make physicians believe that maltine, as made and sold by Messrs. Reed & Carnrick, is inferior in its diastatic effects and in its power of converting starches into sugar and soluble substances. This is certainly, apart from the dishonesty of the transaction, a great wrong to the manufacturers, to the profession, and to the sick. So far from the statements being true, the most distinguished chemists have proved that maltine converts into

soluble substances more than double the amount so converted by any of the malt extracts sold; indeed, of the fourteen extracts sold only three have this power.

Of the accuracy of this statement the following chemists have filed testimonials, to be seen at this office, viz.: Attfield, of London; Harrington, of Harvard; Witthaus, of Buffalo; Macadam, of Edinburg; Depaire, of Brussels; Prescott, of Ann Arbor; Chittenden, of Yale; Coale, of Baltimore; Haines, of Chicago; Stutzer, of Bonn. This notice, as an act of justice, is published with great pleasure.

SPECIMEN ENGLISH IN THE "NATIONAL MEDICAL JOURNAL."—The first sentence in the leading editorial of the *Journal of the American Medical Association*, for April 5th, is as follows:

"MEDICAL COLLEGES AND THEIR ENDOWMENTS.—A medical college should not be an institution for the *manufacture* of physicians, but one where the science and art of medicine *is* taught, where *their* study and advancement *is* encouraged."

Here are some more samples from the same department of the same number:

"Students to-day cannot be taught as simply and inexpensively *as fifty years ago*. Science and the practical teaching of it *has* made too much advancement for *that*."

"They can then demand of the students the work and study that *is* really necessary."

"It is not new colleges that *is* required, but a more efficient management of old ones."

"The practical working of the long college sessions, the thorough grading of classes, and the annual examinations of each class in its grade, instituted by this college *is* well illustrated by the following remarks of the Dean."

THE EDITORIAL ON OCEAN TRAVEL, as given in this number, is prepared almost entirely by Dr. J. A. Irwin, of New York City, from facts obtained by himself during his experience as surgeon on board of trans-Atlantic steamers. Dr. Irwin is an Englishman who has made his home in this city, and who has, with a noble generosity, devoted a large portion of his time and his means to a reformation of the great abuses existing in British trans-Aatlantic passenger steamers. He is still actively engaged at this work, and though little has so far been effected, he has enlisted the aid of the British and American medical press, a small portion of the secular press, and many of the most prominent public men in Europe and the United States. Success full and complete is only a question of time, and when it comes, to Dr. Irwin will the Public be indebted for the great reformation so actively sought and so much needed.

DR. W. H. TRIPLETT, of Washington, D. C., is about to publish an interesting work on the mechanics of respiration and circulation. A specimen section of it is given (from the manuscript) in this number. The work will, it is hoped, be liberally sustained. All letters for him should be sent to 116 West Forty-fourth street, New York.

Dr. H. F. Formad and the Bacillus Tuberculosis.—Dr. Formad closes his very able analysis of Koch's claims in regard to the bacillus tuberculosis in the following strong and significant language: language which the editor of this Journal publishes with great pleasure, inasmuch as the conclusions announced are entirely in accordance with his own views and convictions reached after silent but careful study of the subject:

"From the above analysis of the bacillus question and of the etiology of tuberculosis these conclusions follow: 1. That the bacillus of Koch is a valuable diagnostic sign of tubercular disease. 2. That nothing is proved by its discovery for the etiology of tuberculosis. 3. That the too ready acceptance of the bacillus doctrine is not justifiable, and is likely to do more harm than good. 4. That neither phthisis nor any form of tuberculosis is contagious."

A Graceful Act.—It is stated by the *Journal of the American Medical Association* that the House of Representatives awarded to the widow of the late Surgeon-General Joseph K. Barnes a pension of $50 per month, which is an increase of $20 over the regular rate of pension at $30 per month. Dr. Barnes was Surgeon-General for eighteen years and seven months, and during that time had a recognized pay of $400 a month, besides extras in the shape of commutation, etc., which civilians do not understand and Congress tries to find out. Yet his widow is obliged to come before Congress in indigent circumstances. Mr. Randolph Tucker, of Virginia, was strong in his support of the bill, giving these facts as an instance of the expenses of living to officials in Washington, and calling to mind Dr. Barnes' services as those of one who, for over forty years, faithfully served his country. Mr. Tucker was what is termed "a rebel;" but Mrs. Barnes is a Virginian.

New National Pharmacopœia.—The bill providing for the preparation of a new pharmacopœia attracts no little attention, and the comments are by no means favorable to the introduction of a new standard. The *Medical News*, of Philadelphia, returns to the charge, however, in a manner which does it little credit. It opens it last editorial on the subject as follows: "The proposition for a national pharmacopœia *appears to meet with general professional commendation*, and the only unfavorable criticism which we have seen is based on trivial grounds, or on erroneous views of the power of Congress in the premises." The fact is that *the only favorable comments are found in the "News" itself and in the "Journal of the American Medical Association."—Boston Med. and Surg. Journal.*

The Charm of Mystery.—A doctor with an Arabo-Hindostanian name settled in one of the suburbs of Paris. In a short time he had a large run of wealthy patients. The police sent an officer to inquire about the diploma of the mysterious practitioner. The doctor received the officer very politely, and smilingly showed him his full certificates, and

his diploma from the University of Paris. "But," he said to the officer, you will oblige me if you do not speak about this, for I would lose all my patients in a short time, if they should know that I am only a regular Parisian physician."

THE Board of Education of this city gives to each pupil only 50 cubic feet of air, though promising to give 70. The British hospitals give each patient 1,800 cubic feet, and in barracks 800 cubic feet. The athlete soldier receives twenty-five hundred per cent. more breathing space than is accorded to the suffering mental laborers among the school children of this city. The penitentiary would not be amiss for such monsters of ignorance and cruelty.

THE PLURALITY OF ONE.—We have calls for a few copies of Nos. *two* and *six* of *The Journal* that we are not able to supply at present. We again request any one who may have duplicate copies of these numbers to re-mail them to this office; and if any *one* has received and paid for these numbers who *do* not care to keep them, we will pay four times the subscription price for their return in good order to us.—*Jour. Amer. Med. Assoc.*

THE "ATLANTA MEDICAL AND SURGICAL JOURNAL" (new series, vol. 1, No. 1) has made its appearance. It is very handsome, and the interior gives abundant evidence of trained and accomplished editors. The frontispiece is novel and attractive. It is hoped that this journal will obtain the success which it so richly merits.

PEDESTRIANISM.—Drs. Richardson and Kerr, of London, Eng., are raising a fund of £1,000 for Weston, as a testimonial in regard to his recent walk of 1,000 miles, walking 50 miles every day excepting Sundays only. A great feat and a suitable reward.

THE PRESIDENT OF THE NEW N. Y. STATE SOCIETY.—Dr. H. D. Didama, of Syracuse, is said to consult freely with homœopaths. If this be true, he will have to resign the presidency of the new State Medical Society, whose organic law is the old code of ethics.

"EL REPERTORIO MEDICO" is the title of a new medical journal, published by Wm. Wood & Co. The copies so far published are neatly issued.

THE "OBSTETRIC GAZETTE," of Cincinnati, loses its old editor, Dr. E. B. Stevens.

THE INSANE IN N. Y. STATE ASYLUMS number 11,271—828 more than in 1882.

THE SIMS MEMORIAL FUND now amounts to $4,757.50.

GAILLARD'S MEDICAL JOURNAL

AND

(*THE AMERICAN MEDICAL WEEKLY.*)

(CONSOLIDATED.)

Scientia et Veritas Sine Timore.

VOL. XXXVII. NEW YORK, JUNE, 1884. No. 6.

ORIGINAL ARTICLES.

ARTICLE I.—TUBERCLES OF THE BREAST. By GHISLANI DURANT, M.D., Ph.D., New York.

"Nothing is more common than to see physicians pronounce almost every form of mammary tumor malignant, and advise an operation; and it is altogether too common for a physician to examine a breast that has been removed, only to find it a simple adenoid tumor."—Page 323, *Hospital Gazette*, 1879.

"It must be admitted that though no specific remedy may yet have been discovered for the cure of some diseases, it is still a great advantage to be able to discriminate curable from incurable diseases; the dangerous from the slight; those which require surgical operations from those which do not demand them; and such as admit of a trifling operation from those which call for one of extreme severity."—SIR ASTLEY COOPER, "Diseases of the Breast."

Case 1.—In April, 1878, Miss Hattie ——, aged twenty-six, felt pain in the left breast, and upon examination discovered there a rounded tumor of about one-half an inch in diameter. Her doctor, to whom she showed it, told her that such things were not uncommon, and that if she would but keep her hands away from it, it would disappear.

During the succeeding eighteen months, the tumor neither increased nor diminished in size, nor did it, except at the menstrual periods, give pain. Since then, however, it has grown steadily, and when the family physician again examined it (May, 1880), he advised her to consult a prominent surgeon of Chicago, who was unable to decide whether the growth was malignant or not, but counselled its removal. This she refused to have done, and, returning home, nervously watched its development. The idea of having a cancer, and the dread of an operation, have so disturbed her general health that she has lost

all desire for food, her menstruation has become very scanty, and she has grown very thin.

In September, 1880, her parents, alarmed by her condition, brought her to New York, to consult Dr. ——, who pronounced the growth cancerous, and advised an immediate operation, for the reason that the earlier the surgical interference, the less the probability of a return of the growth. This statement so frightened the girl that she took to her bed. In the meantime the parents met a lady whom I had successfully treated for a somewhat similar growth.

When I saw the case on the 26th of September, 1880, the appearances were as follows: The left breast was larger than the right, and presented on its upper hemisphere an ovoid tumor, an inch and a half by one inch, with a slightly irregular outline and a nodulated surface. While sharply defined in front, behind it seemed to merge into the deeper tissues of the gland; no radiating prolongations from the tumor could be found. There was no deformity, no discoloration nor adherence of the skin, nor any enlargement of the axillary glands; there had been no exudation from the nipple, which was on the same horizontal line as the other.

Except that she has suffered terribly from chilblains during the past four years, the patient habitually enjoyed excellent health up to the time of the discovery of the tumor. An examination of her lungs gives negative results. Her parents seem to enjoy fair health. There is neither cancer, tubercle, nor syphilis in the family. A sister, eight years her junior, has an enlarged subclavicular gland without any discoloration of the skin.

What is the nature of this tumor?

The girl is twenty-eight; unmarried. There is no hereditary antecedent; the tumor has developed very slowly; she says that it followed her striking her breast against the mantelpiece, but it may have been present long before. There is no lancinating pain, or it is so slight as to cause no trouble; no enlargement of the axillary glands, and no exudation from the nipple. It has not the hardness of scirrhus, and she is too young. The gland is not deformed, nor the nipple retracted. There is neither the dimpling nor the pitting so characteristic of carcinomatous growths (Gross). Its growth was far too slow for a sarcoma, or a fibroid tumor, and neither the rebound nor the peculiar wave sensation of a cyst is present. Circumscribed cancers are extremely rare, and develop at or after the menopause. It is not an encephaloid, for it is neither large enough (remembering how long it has been growing) nor has it the elasticity, nor the irregularity of surface, of this variety of growth. It is not an adenoma, since it is not isolated, has not sharply-defined boundaries, is not heavy enough, and has no enlarged superficial veins.

Believing it to be tubercle of the breast, I began, on the second of October, to feed her well, to give her arsenic, and to inject daily into the tumor itself iodine and carbolic acid (carbolic acid, 1 gr.; iodine, 1-10 gr.; water, 100 grs.). On the first of November there was already a marked improvement in her general health. In January she was entirely free from pain, and the tumor had diminished to one-half its former size. In March it could scarcely be felt; and so it was in May, 1881, when she returned to her home.

In a letter dated May, 1883, in answer to my inquiry as to her present condition, she writes that "the little hard lump is there still, but causes no inconvenience."

Case 2.—The history of the tumor to which reference has been made is as follows:

On May 18th, 1877, Miss P —— consulted me regarding a lump in her right breast, which she had discovered two weeks before. She is a brunette of splendid physique. Her father is living and well; her mother died from cancer of the womb. A sister, thirty-four years of age, had one breast removed, a year ago, for cancer.

The affected breast is larger than the other; the development is in its totality, no tumor being perceptible to the sight. Touch shows increased sensitiveness on the inner side near the nipple, where a tumor the size of a walnut may be felt. No fluctuation can be detected, and the skin is not discolored. Both the physical and the rational signs of mammary abscess are absent. While the family history and the symptoms suggested the possibility of cancer, I was inclined to regard the case as one of tubercle of the breast. Uncertain as to the nature of the tumor, I did not operate, but placed her under the iodo-carbolic acid treatment.

During the first three weeks' treatment, the breast increased in size, but became softer. At the end of that time fluctuation could be detected at the site of the tumor. A week later I introduced a fine exploring needle in the fluctuating portion, and obtained a few drops of pus, somewhat similar to that from a cold abscess. I then made an incision three-fourths of an inch in length into this pus-cavity, from which came about two ounces of a serous pus mixed with caseous matter. The treatment was continued, and in September the breast, except a single hard spot, was well. This spot grew smaller and smaller, and when, six months ago, I saw the patient, a tiny scar alone told which breast had been affected.

It is easy to conceive that in both these cases, the second especially, a diagnosis of cancer might well be made, and it was with some hesitation that I finally pronounced the second to be a case of tubercle of the breast, a lesion but little known, and until recently neither described with sufficient exactness nor by competent authority, owing to the small number of recorded clinical observations. I have searched carefully the literature of the subject, and have failed to find anything pertaining to it (except once) among English or American writers. I propose to give here a summary of our present knowledge of the subject.

Virchow stated quite recently that "the mamma is one of those organs in which tubercle has not yet been found" ("Geschwulstwerk der Brustdruese," Bd. 11, p. 679).

No less positive is the statement of Cornil and Ranvier: "We know of no case of tubercle occurring in the mammary gland" ("Patholog. Histology," translated by Shakespear and Simes, Philadelphia).

But the beliefs of but a very few years ago are to-day known to be untrue, and the existence of tubercle in the mamma has been fully demonstrated by the researches of Dubar and his followers.

SCROFULOUS SWELLING OF THE BREASTS.—SIR ASTLEY COOPER.

"In young women who have enlargement of the cervical absorbent glands, I have sometimes, though rarely, seen tumors of a scrofulous nature form in their bosoms, confined in most cases to a single tumor in one breast; but in one case two existed in one breast and one in the other. They are entirely unattended with pain, are distinctly circumscribed, are very smooth on their surfaces, and scarcely tender on pressure. They are very indolent, and vary with the state of the constitution, diminishing as it improves and increasing as the general health is deteriorating. They can only be distinguished from the simple chronic inflammation of the breast by the absence of tenderness and by the existence of other diseases of a similar kind in the absorbent glands of other parts of the body. They produce no dangerous effects, and do not degenerate into malignancy. They do not require an operation; and, indeed, it would not be justifiable to remove them by the knife. But I have seen them removed from an error in judgment respecting their nature, and when cut into, after their extirpation, they are found to be composed of a loose and curdy fibrine very unequally organized" ("Anatomy and Diseases of the Breast," 1845, chap. viii., page 53).

TUBERCULOUS ABSCESS.—VELPEAU.

"Though possibly here, as in every other situation, tuberculous abscesses of the breast are, notwithstanding, rare. Their seat by preference is in the glandular system, and up to this time anatomy has discovered no lymphatic glands in the breast. Surgeons who have supposed the existence of glands in the breast on account of certain tumors in them, have probably been imposed upon by growths of the secretory structure and by morbid productions. The breast is, however, sometimes the seat of abscesses, which may be called tuberculous because of the progress, and especially of the character of the pus which they contain. Lymphatic women, of broken constitution, who have been weak for a long period, are particularly subject to this form of abscess, which we also meet with in some persons in other respects of good constitution and health."

Case 2.—A woman, upwards of 40 years old, from Provence, who had previously enjoyed excellent health, came into La Charité for a tumor, the size of the fist, which had arisen insensibly in the right breast in consequence of a slight blow from the elbow. It occupied the inner and upper part of the breast, and had never been accompanied by pain or inflammatory symptoms. Irregular in outline, like a glandular tumor, it was soft and fluctuating in some parts, and so hard in others that it had been mistaken for fibrous, encephaloid, or scirrhus mass. The opening which I made in it gave exit to pus partly serous, partly grumous, resembling in all particulars the pus of scrofulous or tuberculous abscesses. The walls of the cyst were partly formed by the mammary tissue, and had not undergone any morbid change. Attentive examination made it evident that the pus cavity extended by a slightly sinuous passage as far as the cavity of the anterior mediastinum. No change could be detected in the bones or cartilages

nor in the lungs, and, as the abscess finally got well, I was enabled to conclude that it was unaccompanied by any organic lesion (" Maladies du Sein," p. 162).

If some varieties of neuralgic induration and of scattered tubercles lead to the supposition, without absolutely demonstrating the fact, of the existence of lymphatic glands in the mamma, the following case seems to me to add still greater weight to the supposition :

Case 1.—A woman of from 40 to 50 years of age, who was for a long time an inmate of the Clinical Hospital, where she died, and whom I saw on several occasions, presented in both breasts numerous tumors, which had almost all the characters of lymphatic glands, much enlarged and degenerated. The tumors were globular, of a pale red color, separated from each other, of almost fibrous density, covered with points and yellowish or greyish clots, like tuberculous glands. There were similar tumors, to the number of several hundred, on the neck, in the axillæ, the groins, and everywhere, in fact, where anatomy has placed the existence of lymphatic glands beyond question. They existed also in a number of other parts where the glandular lymphatic system has never been demonstrated. These tumors were carefully dissected by Mr. Lenoir, who showed them to me, and they were so exactly like degenerated glands that I had no hesitation in classing them amongst the scrofulous or tuberculous tumors of the mamma (*op. cit.*, p. 285).

Tuberculous tumors, without general tuberculosis, may occur in the breast. They are usually single, and have no fixed size or form. Lumpy and irregular in shape, they may present themselves in the centre of the gland just as under the skin, but more commonly they become developed beneath the mamma. Supervening in consequence of a blow, or without evident cause, they sometimes progress very slowly and indolently, and at others more rapidly, and accompanied by sub-inflammatory symptoms. They are composed of hypertrophied, lardaceous greyish tissue, forming a sort of cyst, which is very thick in some parts, and very thin in others; the loculi of which are either greyish, flocculent pus, or free albuminous clots, or caseous or thick tuberculous matter, adherent to or combined with the neighboring tissues. Sometimes, however, they are represented by homogeneous masses, which are solid though friable, and which, by their form, simulate pretty closely encephaloid or colloid masses.

Case 3.—In the year 1836, I was requested by Mr. G. Pelletan, to see a woman, about 30 years of age, who had for two years been affected by a tumor of the breast. The tumor, which was about the size of a hen's egg, lumpy, movable, indolent, and situated between the lobules of the mamma, had arisen without external violence, or appreciable cause. No fluctuation could be discovered in it; it was elastic, and tolerably hard, with a certain amount of thickening. It was surrounded by pale and thin tissue, and occurred in a woman who was much emaciated, and whose general health had long been feeble.

The most attentive examination failed to detect any internal organic lesion in the patient, but as the disease of the breast had resisted the different remedies which had hitherto been applied, it was decided, on consultation, to proceed to the extirpation of the tumor. There was nothing remarkable in the operation ; it was simple, easily and rapidly executed, and in less than five weeks the wound

had cicatrized. Dissection of the mass showed—1. The fibro-glandular tissue distended, thinned, and forming a sort of cyst incompletely septiform. 2. Masses the size of the thumb or of a filbert or walnut, agglomerated together, and in some parts fixed one against the other, and in others separated in portions of their circumference by vinculi or layers of healthy tissue. There was every indication that these masses were the result of exudation, and they were destitute of vascularity or organization. Their substance was homogeneous, of a light blue or yellowish white. On pressure they yielded, and were broken up, and became transformed into an easily friable substance. They had not the texture of encephaloid, from which they differed in the absence of any organized basis; nor did they resemble colloid, which is transparent or bluish, friable or gelatinous. They were, in one word, masses analogous to crude tubercles, and distinguished from them only by their excess of volume (*Op. cit.*, p. 287).

TUBERCULOUS TUMORS OF THE BREAST WITH PULMONARY TUBERCLES.—JOHANNET.

On December 2, 1847, there came into the Hospital of Bon Secours, Augustine Didier, aged forty. She menstruated at 15, and married at 20, and gave birth to eleven children in the space of thirteen years. But one child, the first, was nursed by her. Her health, up to February, 1847, was excellent. At that time she began to have severe, almost continuous pain in the right axilla, which led her to discover there small round movable tumors; a dry cough followed, and slight spitting of blood. Menstruation suddenly ceased, and in a few days the right breast began to enlarge, but painlessly. Soon the axillary glands enlarged and ulcerated, and from that time the fistulous openings have given exit to an abundant serous and fetid pus. When she entered the hospital her general health was wretched, no digestion, diarrhœal stools, and sleep broken up by sharp pain in the right breast. However, there is but little cough, no expectoration and no sign of scrofula.

Auscultation and percussion show that a cavity exists at the apex of each lung. The right mamma is the size of that of a child at birth, and the smooth skin preserves its mobility, and its ordinary thickness; here and there it is furrowed by bluish veins. The surface is uniform, without any nodulation, and whatever spot be explored, there fluctuation is evident. A puncture with a bistoury, in the depending portion, gave vent to an abundant semi-serous, greenish-brown, and very fetid liquid, and the patient at once experienced relief. But the symptoms became more acute after a few days, and the patient died on the 29th of November.

At the post-mortem a small cavity was found in the right, and another, which would admit an ordinary nut, in the left lung. A sub-pleural tubercle as large as an oat grain had perforated the third intercostal space and infiltrated the breast. The track of the pus could be followed only with difficulty, as it was a sort of fistulous duct lined by mucous membrane. Here and there, also, the mammary gland presented in its thickness five or six large tubercles. Some of them had softened almost entirely, adding a new element to the suppuration, and leaving

nothing but their shell; the others were yet in a crude state (*Rev. Méd. Chirurg.*, t. xiii., p. 301).

LYMPHATIC TUMOR IN THE FEMALE BREAST.—JAS. MILMAN COLEY.

The absorbent vessels of the upper part of the breast, leading to the axilla, are subject to a disease characterized by painful, tender and irritable swelling, and consisting of several cord-like indurations, at some times disposed in parallel rows, at other times connected after the manner of anastomosis. Other parts of the breast are occasionally the seats of this affection; and in whatever situation it occurs, the swelling is transverse, following the direction of the absorbents towards the axilla. On a superficial examination the tumor may escape detection; but it can always be discovered by taking the suspected part between the fingers and thumb. When the pain and tenderness are extreme, the absorbent glands in the axilla become enlarged from irritation. These glandular enlargements always disappear after the original disease has subsided; the lymphatic swelling in the breast also frequently retires, leaving no vestige behind it. In extreme cases, however, a permanent thickening takes place, occasioned by the deposit of lymph in the cellular membrane. This disease usually attacks females between the ages of 15 and 35, and is liable to recur repeatedly where the constitution is in the peculiar state predisposing to it. The condition to which I allude is that of comparative emaciation, accompanied with irregular or deficient menstruation, depression of spirits, and general debility. Hence, suckling and chlorotic women are more frequently the subjects of attack. In some instances the patients are inclined to attribute the origin of the disease to external violence; in the majority of instances, however, if not in all, it has appeared to me to proceed from imperfect menstruation. The size of the tumor in the mamma varies from that of an almond to that of an adult thumb; and the pain and tenderness attending it are of a remittent character. In some rare cases it attains nearly the size of a pullet's egg, in large and plethoric mammæ.

One of these tumors, which was removed at the earnest solicitation of the patient, was found, on examination, to consist of thickening of the coats of the lymphatic vessels, embedded in a stratum of condensed cellular tissue. As this affection is dependent on the state of the general health, and particularly on an imperfect performance of the periodical functions of the uterus, its duration is uncertain.

The author then relates six cases illustrating the disease of which he treats. I will, however, give only the last of these, in which the size of the breast made the diagnosis uncertain.

"A lady, aged forty-three, residing in the country, consulted me respecting a tumor in the right breast, which had been a source of pain and apprehension during twelve months. She had been under the care of a general practitioner, and an eminent surgeon, and was led to believe the tumor was of a malignant character. The swelling was as large as a walnut, irregular on its surface, exceedingly tender and painful on pressure, and seated in the upper part of the breast, in the course of the absorbents. Every three or four months the uterus discharged a kind of false membrane instead of the proper menstrual secretion.

The bowels were habitually relaxed; the axilla was free from disease; the pain in the tumor was described as an aching, and sometimes as a stinging sensation. On a careful examination, which was much impeded by the mass of cellular and adipose membrane beneath the integuments, I discovered in the irregular surface of the tumor the enlargement and induration of the lymphatic vessels, which are characteristic of this disease, and I therefore gave my patient a favorable opinion and prognosis, notwithstanding that some retraction of the nipple, quite unusual in connection with this kind of tumor, had taken place.

"May 5th.—Under iron and colchicum the tumor is much smaller and more free from pain, the catamenia has appeared naturally, nipple less retracted, and the lymphatic character of the tumor more evident.

"12th.—All pain removed, and the swelling in the breast rapidly diminishing.

"August 18th.—No return of pain, except on the approach of menstruation; no remains of the tumor left. The remedies discontinued.

"The patient has continued free from the disease to the present time"—(*Lancet*, 1848, p. 579).

TUBERCULOUS TUMORS OF THE BREAST, WITH PULMONARY TUBERCLE.

"I have seen," said Nélaton, in 1838, "Gerdy extirpate tumors that were clearly tuberculous, without any concomitant lesion. The tubercles, six in number, formed a mass, which, before the operation, raised up the skin, and caused a prominence in the form of nodulated tumors. They were similar in every point to those which are sometimes found in the brain of children, and like them had the color and density of cooked chestnuts" (*Rev. Méd. Chir.* t. xiii., p. 301).

SCROFULA OF THE BREAST.—BAZIN.

"Scrofulous tumors of the breast have a volume varying from that of a pigeon's egg to that of a fœtal head. They are nearly always painless, and this distinguishes them from cancerous tumors proper. Their surface is more or less nodulated, and they are of unequal consistency. Partial suppuration may take place in them, approach the skin, and thin or perforate it. At the surface of the tumor ulcers are formed through which an unhealthy pus, mixed with tuberculous flakes, escapes.

Scrofula never manifests itself in the mamma alone. Its march is slow. its duration undetermined. In most cases the affection is mistaken for cancer, which explains why certain amputations of the breast are not followed by a return of the disease; the scrofulous affection not being subject to return as the cancerous is.

Eczema of the breast, abscess of the mamma, blows, falls, and, generally, all the causes of local excitement, favor the development of this affection ("Leçons sur la Scrofule," 2nd edition, 1861, p. 409).

MAMMARY TUMOR OF TUBERCULOUS NATURE TERMINATED BY SOFTENING AND ISSUE IN THE GALACTOPHEROUS DUCTS.—DR. LÉGER.

"On April 15th, 1878, Miss X, aged about thirty, came complaining of a

tumor in the right breast, which caused her much suffering. The young lady, of frail organization, is unable to give much information as to her family antecedents. Her father and mother are still alive, and a younger sister, who is also delicate. When she first noticed the tumor, in September, 1877, it was an indurated nucleus the size of a filbert, lying at the inferior part of the right breast. This nodule has steadily increased in size, has become knotted, subdivided into lumps, and at the same time painful. Examination shows that the left gland is rudimentary. The right is prominent, conoidal, not hanging, and presenting, in its inferior half, well-marked nodosities. The skin is slightly adherent, especially on a level with the principal nodule; its color is violet, and the nipple is slightly retracted. Pain is felt at times, becoming marked on pressure, when the hardness of the nodules is manifest. No engorgement of the axillary glands exists.

"To sum up the description of this mammary tumor, it may be said that everything points to the existence of an encephaloid carcinoma on the point of ulcerating.

"But on examining the general state of the patient, you see that her health, greatly reduced, is undermined by a cause other than a cancerous cachexia. Instead of a straw-yellow tint of the skin, there is a skeleton-like thinness, with red cheeks. The young lady says that, though the tumor makes her uneasy, she is still more disturbed by an incessant cough, which came on at the same time as the trouble in the breast. She has night sweats, and although the sputa are not as yet stained by blood, they are greenish and very abundant. The exploration of the thorax reveals the existence of a large cavity at the apex of the right lung.

"The question is whether we have to deal with a cancer of the breast in a tuberculous patient or a true caseous mammitis. Although to-day it is admitted that the two diatheses—the cancerous and the tubercular—do not exclude one another, and notwithstanding the resemblance of the lesion to a carcinoma about to ulcerate, the last hypothesis seems to me the more probable one, both on account of the marked tuberculous condition of the patient, and that lesions of the mamma so far advanced, had they been of a cancerous nature, would have affected the axillary glands. The truth of the diagnosis was verified towards the end of August by her death from pulmonary tuberculosis" ("Bull. Soc. Méd. d'Amiens," 1878).

TUBERCLE OF THE MALE BREAST.—DR. HORTELOUP.

M. M., aged thirty-nine, has been tuberculous at least ten or twelve years, and there are cavities at the apex of the left lung. There was no anterior syphilis.

In November, 1870, while at Mentone, the right testicle began to enlarge, and after presenting symptoms of great acuteness, causing sharp pains in the belly and the lumbar region, though it did not prevent the patient from standing, passed into a chronic state.

In the month of June, 1871, the right testicle was found to have become as

large as a turkey's egg, uniformly hard in all points, with no nodosities, and moderately painful on pressure. The left testicle was beginning to increase in size and become painful. In July, 1872, the right testicle had diminished in size two-thirds, and the left to its normal volume; there had been no softening, no abscess and no nodosity.

In December, 1871, the patient complained of a pain, on the slightest touch, in the left breast. Direct examination revealed a perfectly circular tumor of the size of a five franc piece, flat, but presenting, however, a thickness of at least one centimetre, and painful to the touch; the skin is slightly reddened, the nipple retracted a little toward the centre of the tumor. Cataplasms were ordered to be kept constantly applied for one month.

At the end of January, 1872, the pain had disappeared almost entirely, but the tumor still kept almost its former volume; the emplastrum Vigo was employed for three months. Slow and progressive diminishing of the tumor followed, and some traces of it still remain to-day, but the patient pays no attention whatever to them ("Des Tumeurs du Sein chez l'Homme," Paris, 1872).

TUBERCLE OF THE MAMMA.—BILLROTH.

There is reported the case of a scrofulous girl, who was thought to be tuberculous also, which was seen by Billroth. Nodules containing caseous matter, and varying in size from a hazel to a walnut, were found in the breast. Each one having been incised and then cauterized with argentic nitrate, began to heal. Billroth would call this case one of chronic caseous-matter-producing mastitis.

There is no clinical history of the second case referred to by him, except that the patient was twenty-six years old, tuberculous, and had during her life suffered no pain in the breast. At the post-mortem, numerous cavities, filled with cheesy broken-down masses, which here and there contained in their centre a tuberculous fluid, and small caseous nodules, occupied, or rather studded, the breast. Although the microscopic examination gave no evidence, Billroth is not positive about the presence of giant-cells in the preparation given him, but his conclusion "that this was a rare case of a true tuberculosis of the mamma," is justified ("Deutsche Chirurgie, herausgegeben von Billroth u. Luecke, 1880, lief. 41. "Die Krankheiten der Brustdruese," p. 80).

TUBERCLE OF THE BREAST.—DR. RICHET.

"The left breast was enormously tumefied, and the appearance of the skin was masked by the application of tincture of iodine, which had made it brown and scaly. In places the skin was elevated by small nodules, over which irritating applications had been made for eighteen months. On both sides, below the breast, there was eczema. This, without doubt, was caused by the irritating applications. The affection had also developed under the axilla of the left side; for there a large tumor existed, which was hot, covered by a very red skin, with an indurated base, and a soft and suppurating summit, as if it were a phlegmon not entirely softened. Under the skin of the breast you could feel a tumor—elastic, hard, formed of two principal knobs, and situated over the external

part of the mamma, comprehending that half of the hemisphere toward the axilla. The tumor was so changed by the inflammatory phenomena, that a diagnosis was impossible.

"Under emollient applications, the use of antiphlogistics, and a free incision, which gave issue to a large quantity of creamy pus, mixed with clots and flakes, the tumor grew smaller, and the pain diminished considerably.

"When the inflammatory phenomena had given way, the aspect of the case changed completely; the general health improved, the fever disappeared, and the appetite returned. Up to two years ago, the woman had never been ill; lately she has had a cold but no spitting of blood.

"At the outer part of the breast you can now feel a tumor the size of a turkey's egg; elastic, hard, presenting three principal parts, two of which had been incised and had given issue to pus. When pressure is made at that level, pus no longer flows, but there exudes a sort of plastic lymph, yellowish, stringy, not resembling the fetid discharge of cancerous tumors, but recalling rather the appearance of thickened lymph. Between the two knobs there is a third one, which was not incised because it presented no inflammatory appearances. It is not painful on pressure.

"In three weeks the tumor in the axilla has diminished four-fifths; it has the volume of a large nut and is very hard. The skin over it is wrinkled, no more pus exudes, and the base is like the tissue of the breast, elastic and hard. Though the tumor had a hard and elastic feel, it was not painful, and gave issue to a liquid resembling plastic lymph. I at first regarded it as cancer with a rapid growth (Broca). To-day the possibility of a similar diagnosis does not exist.

"Is it malignant or benign? I do not believe it to be a cancerous tumor, because it is smaller to-day than when it was first observed two years ago. It has diminished two-thirds in three weeks. That is not the progress of cancer; and, besides, there is a great tendency to cicatrization.

"Is it a syphilitic tumor of the breast? The woman has been a long time under potassium iodide, and the tumor is not hard enough.

"Tuberculous or caseous tumors of the breast, alone, have the characteristics and the course observed in this case. Their rarity alone is the only objection to the acceptance of this diagnosis ("Gazette des Hôpitaux," No. 55, May 13, 1880, p. 433. Case at Hotel Dieu; service, Richet.

TUBERCLE IN THE RIGHT BREAST.—DUBAR.

M. J., aged twenty-one, entered the Hopital de la Charité, February 7, 1880. She never had glandular swellings. From her twelfth year she took cold every winter, the cough lasting until the warm season. For the last year she has had a continued cough, but no hæmoptysis. There is no hereditary disease, nor any evidence of syphilis.

In February, 1879, she first noticed a swelling on the outer side of the right breast, not far from the arm-pit. A fortnight later this became the seat of darting pains and the tumor grew larger gradually, and opened spontaneously in April. At first a reddish and later on a yellowish fluid came from it. The

pain, which had ceased with the voiding of the contents of the tumor, soon returned with increased intensity. A second tumor, close to the first, and nearer the nipple, developed, and gave issue to a purulent fluid. The fistulous opening seemingly closed, but afterwards reddened, and caused increased pain. An incision was made into the mamma and a large quantity of pus evacuated. As the parts did not heal, the patient entered the hospital on the 7th of February.

The volume of the diseased breast is double that of the healthy one. Palpation shows a large, indurated, nodulated tumor. The nodules are small, unequal, adherent to each other; most of them are situated outside of the nipple, and merge into the tissues of the gland. In the inner portion of the breast deep-seated indurations are felt. The gland is normal in its entirety, and moves freely upon the deeper parts. The skin is movable over the gland, except for a small space around the fistulous openings. The general state of the patient is unsatisfactory. There is fever, cough, and a muco-purulent expectoration. Rude respiration, sibilant at both apices, prolonged expiration, and a few well-defined crackling sounds at the left apex are heard upon auscultation. The diagnosis of the tumor is—chronic mammitis, probably tuberculous. As the patient did not improve, but rather grew worse, the breast was amputated on the 28th of May. The healing progressed favorably though slowly.

A thorough microscopic examination demonstrated beyond a doubt the tuberculous character of the tumor (" Tubercules de la Mamelle," 1881).

TUBERCLE OF THE LEFT BREAST.—L. DENTU.

The patient, twenty-three years of age, has no hereditary taint, but suffered when young from swelling of the lymphatic glands. No scar is visible. In her twelfth year, a tumor the size of the fist developed in the left armpit, and opening spontaneously gave exit to a sero-purulent fluid. The discharge continued for nearly two years. In her twenty-first year, a second tumor, the size of an almond, developed near the same place, and a fistula formed, which healed up four months later. The patient was confined soon after, and nursed her child for three weeks only, as the flow of milk then ceased. About a year later she discovered a tumor the size of an almond in the outer part of the left breast. She says that the tumor has grown larger and harder with each menstruation.

On the fifteenth of February, 1879, when admitted into the hospital, the left breast was nearly double the size of the right. The skin is not freely movable, but otherwise is in a normal state. The tumor itself is the size of a hen's egg, and has a slightly roughened surface. There is a feeling of fluctuation, especially in the outer part; no pain. Believing it to be a cold abscess, Dr. Dentu aspirated it, but it soon filled again. Thereupon a large opening was made into it, and, a finger being introduced, a sinuous cavity with thick walls was discovered. On the 6th of April the opening was closed, and the patient was discharged. In the October following, thirty days before her confinement, the scar opened anew, and a milky serous fluid exuded. After her confinement the right mamma decreased in size, but the left remained stationary, giving no sign of inflammatory action.

The patient returned to the hospital on the 14th of February, 1880. The re-

sults of the examination are: The left mamma is double the size of the right. Left nipple retracted to that extent that the first phalanx of the index finger can be introduced. In the external part of the left breast there are three fistulous openings, from which a serous pus flows. The probe penetrates but little; the skin over the outer half of the left breast is adherent, that of the inner is movable to a certain extent, and it seems to become thicker as the nipple is approached. Here and there hard nodules, which seem confluent and form a mass, are felt. In other parts there are smaller isolated nodules. The breast, though not sensitive to pressure, is at times the seat of spontaneous pain, especially at the menstrual periods. In the left axilla there are two long, uneven and somewhat painful cicatrices, and several enlarged lymphatic glands. The examination of the lungs shows no signs of tuberculosis.

The diagnosis as regards the nature of the tumor presents great difficulty. The retraction of the nipple, the thickening and adherence of the skin at some parts, and the presence of nodules in the gland, might lead us to consider it a growth of a malignant character. An operation was performed on the 25th of February. On the 12th of March the wound had almost healed, and the patient was discharged. A microscopical examination of the tumor was made by M. Quenu, Chief of the Historical Laboratory, and the conclusion reached was: "We believe ourselves justified in affirming that the case is one of tubercle of the breast" ("Centralblatt f. Chirurgie," 1881. No. x., p. 318).

TUBERCLE OF THE MALE BREAST.—POIRIER.

So far we have dealt only with tubercles of the female breast. In January, 1882, Dr. Poirier published an exhaustive relation of a case of tubercle of the male breast that came under his observation, the tuberculous origin of which—the histological analysis made by Dr. Mayor (Director of the Histological Laboratory of the Hospital of Paris)—leaves no doubt. The subject, a man of strong constitution, 46 years of age, entered Lariboisière Hospital on the 14th of February, 1881, for a tumor of the breast. His father died when 40 years old from an unknown cause; his mother when 30 from an acute affection, with fever and diarrhœa. He has two brothers older than himself who enjoy good health. The patient is not aware of any tumor or ulcer in his family; he does not drink, and has not had syphilis. He has suffered from: first, jaundice in 1856; second, intermittent fever, contracted in Corsica in 1861; third, bronchitis in 1864; and fourth, acute pneumonia on the left side in 1871. The man states that about three months ago he became aware of the presence of two small vesicular pimples with indurated bases, three centimetres to the exterior of the right nipple. Little by little the base of the pimples increased in volume and hardness, and a subcutaneous lump resulted. He paid but little attention to it, and attributed the growth to a blow from a fist received in that region two years before in a fight. Lately the swelling, which is constantly increasing, has become painful, and for this reason he decided to enter the hospital.

Examination shows, upon a line drawn from the nipple to the axillary space, the presence of an elongated tumor, beginning at the distance of a finger's

breadth outside the right nipple ; it extends towards the axilla of the same side. The tumor is ovoid, the larger extrm ity being directed outwards toward the nipple. Its length is six centimetres, its breadth four ; its consistency is hard ; its surface knobbed ; its summit does not terminate sharply, but ends in a diffused subcutaneous puffy mass, which may be followed up to the hollow of the axilla, where two hard glands, each the size of a hazel nut, are found. The tumor is not attached to the pectoralis major, upon which it glides easily ; it is less independent of the skin, to the deep layer of which it adheres, so that the skin above the tumor wrinkles on being pinched. At first sight the tumor seems to have been developed outside of the nipple, in the rudiment of the mammary gland which exists in man, for the nipple does not participate in the movements impressed upon the tumor. The nipple, however, on being pressed, is seen to be puffy, and larger than that of the opposite side. The tumor is sensitive to pressure, but it is only within the last twenty days that it has become the seat of spontaneous pain, which comes on at irregular intervals during the day, is lancinating, and radiates towards the axilla.

As upon examination, the glands of the left axilla, those of the neck and of the inguinal regions were found to be very much enlarged, without hypertrophy of either the liver or spleen, it was decided, before giving a diagnosis, to place him under anti-syphilitic treatment, although he had denied most positively that he had had that disease.

Auscultation gave negative results.

After ten days of this treatment the tumor had nearly doubled its size, and the skin, before of a normal color, became violet-red. Furthermore, one of the knobs of the larger extremity of the tumor had increased to the size of a nut, and gave signs of fluctuation. In turn, a diagnosis of a lympho-sarcoma and a carcinoma was made.

An operation on the 24th of February showed beyond a doubt that the tumor was tuberculous ("Le Tubercule du Sein, chez l'Homme et chez la Femme." Archives Générales de Médecine, 1882, p. 59).

TUBERCLE OF THE RIGHT BREAST.—OHNACKER.

M. W., aged forty-four; married. The parents are long-lived; the brothers and sisters all healthy. She herself has always enjoyed good health, and has had five children, the last of whom was born in 1871. She nursed her children, and never had any trouble with her breast until 1881, when she accidently discovered a hard lump the size of a walnut in the right one. She has no remembrance of any injury. The tumor enlarged slowly. Painless in the beginning, it now makes itself felt, though slightly. Shortly after, a lymphatic gland in the right axilla enlarged, and, being poulticed, suppurated, leaving a fistulous opening.

On the 20th of November, the patient presented herself at the surgical clinic, where an examination was made, with the following results: The right breast is about the size of a large fist. It does not hang down, but projects about one-half the diameter of the fist from the surface of the thorax. The tissue of the

gland, as shown by palpation, is much harder than normal, with the exception of one spot, to be mentioned later on.

On the surface of the swelling are uneven masses and flat lumps. The largest of these, the size of a *marstueckes*, lies just below the nipple and is remarkable for its hardness. Over these hard spots, the skin can be readily moved, and shows no alteration. The gland is not adherent to the muscular tissue below, and can easily be moved up and down. In the upper part of the gland a fluctuating spot about the size of a walnut exists. This begins near the nipple, and extends directly upwards to near the borders of the gland. In the centre of this spot a fluid is felt, which is only covered by the outer skin, here somewhat thinned and reddened. Palpation of the breast causes no pain at the hardened parts, or at the fluctuating spot. The nipple has the same appearance, and projects, as far as the left one, and shows nothing abnormal. The left breast is only one-half the size of the right. It hangs down, and its tissue is so flabby that the borders can hardly be distinguished. No morbid alterations could be detected in this breast. In the right axillary space, a hardened lymphatic gland, the size of a filbert is felt, which is adherent to the skin. Here also is a fistula with ulcerated edges, from which exuberant ulcerations protrude. The matter flowing from this fistula is so scanty that it dries into a scab covering the granulations.

An examination of the deep organs gave only negative results. At the apex of the left lung the percussion note is a trifle duller than at that of the right; but there is naught else to suggest that any disease of the lungs exists; in no part of the body is there a trace of syphilis. The patient complains of great weakness, and has a pale sickly complexion; there is no fever. There is no doubt whatever that the fluctuating spot in the breast is a cold abscess, and that the induration of the gland is due, not to the development of a neoplasm, but to a chronic inflammation. The next question, the cause of this inflammation, could not be solved. As the induration was not limited to one spot, but had spread over the entire gland, and as it had not originated in child-bed, but had appeared in an unusual way, it was deemed advisable to remove the entire gland.

The amputation was performed on the 30th of November. Besides the breast, the ulcerating gland in the axilla was removed. The wound, united by ligatures, healed kindly under antiseptic dressings. On the 14th of December, the cicatrix was quite firm, but above it, where fluctuation had been detected, a small abscess showed itself, which compelled the patient to remain a short time longer in the ward. On January 7th, 1882, she was dismissed entirely cured.

Case 2.—Helene H., thirty-three years old; married. Her mother died at sixty-five of lung disease, her father at sixty-six from dropsy. Three years ago the patient had an acute illness, said to be inflammation of the lungs. No sequelæ from it. Patient claims that prior to that time she always enjoyed good health. She was married at twenty-four, and has given birth to four children, three of whom are living and well; the other died in its fifth year. The youngest was born February 6th, 1881, and was nursed from both breasts. In May, 1881, she discovered a hard lump on the outer portion of the right

breast toward the axilla. Her attention was directed to this by feeling pain there after bodily exertion, and she therefore imagined that this exertion was the starting-point of the subsequent disease of the mammary gland. The pain in the breast was so slight that she nursed the child from that breast the whole summer, until the secretion of milk ceased and the child would no longer take the breast. In the meantime the mamma had increased considerably in size. During this slow growth no pain was felt. For some weeks, however, the swelling has increased more rapidly, and a burning pain is felt in the direction of the sternum.

On the 21st of December, 1881, the patient entered the hospital. In the place of the right mamma there is a tumor nearly twice the size of the first. It has an elongated club-shaped form, and its narrow end reaches to the axillary space. This end is free, and no swollen lymphatics can be felt. Palpation shows that that part of the tumor near the axilla contains a cavity filled with fluid. This cavity extends from the outer border of the gland to near the bottom of the axillary space. It possesses undoubtedly a pretty strong wall within which the fluid is imprisoned, for the fluctuating swelling is sharply defined and can be shifted a little on its base. This capsule is in intimate relation with the mammary gland, so that its exact limit cannot be made out, and it seems as if the cavity extended somewhat into the substance of the gland itself. In the mammary gland itself there is, just above the nipple, a small soft spot about the size of a filbert. There are also smaller cavities. Leaving out of consideration the parts just mentioned, all the exterior portion of the gland is indurated. The gland, as a unit, can be moved on its base; the skin over both the hard portion and the cavities is unchanged and flexible. Palpation causes no pain on the exterior portion of the swelling. But the symptoms presented by that portion, extending from the nipple inward to the sternum, are entirely different. Here the skin is reddened, infiltrated and immovable, warmer than the surrounding portion, and very sensitive to the touch. Owing to the infiltration of the skin, the inner portion of the gland cannot distinctly be determined, but fluctuation can be felt with certainty at the bottom. The nipple is well developed, and shows nothing abnormal. The left breast is small and flabby, and no morbid changes are discernible in it. Examination of the deeper organs reveals nothing worthy of note, no disease of the lungs being recognizable. The patient is emaciated and has a cachectic look. Taking into consideration only the exterior part of the diseased breast, the appearances correspond exactly with those of the former cases, so we came to the conclusion that it was a case of tuberculous disease of the mammary gland. To make the diagnosis more certain, on the 22nd of December, 1881, the cavity near the axilla was laid open. It contained pus and a mass of necrotic cheesy tissue, the size of a pigeon's egg. On the following day the breast was removed. At the present time, several months after the operation, the parts have not completely healed, though the general health of the patient has improved greatly, and the cachectic look entirely disappeared.

The microscopic examination of both these cases, which is given at length, left no doubt that they were anything other than tuberculosis of the mamma.

In the first case there could be no doubt whatever, for here the tuberculous process showed itself in the most decided manner. The infiltration of the parenchyma of the gland, with the formation of pronounced miliary tubercle, the peculiar tissue of granulation mixed with giant cells, the slow development of the disease, and the tuberculous cheesy degeneration in the axillary cavity, all are convincing.

The second case appears somewhat different. The gland was much larger, softer, full of large abscesses, over which the skin was partly inflamed and reddened. In this case, without doubt, the modified condition of the gland must be ascribed to the fact that the gland was engaged in active secretion. Atthis period the mamma is more vascular, and consequently the development of the tubercles was more rapid. This may be the more so, as, notwithstanding the diseased condition, the patient went on nursing her child.

In both these cases, as in the preceding ones, we have to do, without doubt, with scrofulous or tuberculous individuals, so that the diseased state of the mamma must be regarded as a part of the general condition (" Die Tuberculose der weiblichen Brustdruese."—*Arch. f. Klin.*, Berlin, 1882).

TUMORS OF THE BREAST.—A. BÉRARD.

Case 1.—A woman had received, thirty years ago, a violent blow from a fist upon her right breast; she felt in the contused part (three or four finger breadths from the nipple) a passing pain, which was accompanied neither by redness nor swelling. Soon the pain passed away, and from that time the patient suffered nothing more on that side until last autumn, when the pain, absent for so many years, returned accompanied by a tumor, which soon acquired the size of a small nut. At the time she came to consult me two small ulcers had formed. I thought that one of the lobules of the gland was scirrhus. Later on, one of these ulcers dilated sensibly, and showed a whitish, solid compact mass, that is to say, scirrhous, which detached itself towards the fourteenth day; the appearance of the wound was very good, and the tumefaction had diminished. A short time later, the other ulcer underwent the same process, and gave issue to a glandulous mass similar to the preceding one. Local treatment was continued; the pain and tumefaction disappeared, and cicatrization took place without accident.

Case 2.—Catharine Martin, aged nineteen, of a lymphatic temperament, and who had not menstruated for fifteen months, experienced in April, 1865, a slight pain, and perceived that she had a small tumor, the size of a filbert, in the right breast. The tumor soon increased in size, and the surrounding parts became engorged; other tumors appeared, and the breast, increasing in volume from day to day, finally became twice that of the other. It was very hard, and lancinating pains were felt from time to time. A physician who was called in saw grounds for an operation, which was objected to; then abscesses formed and opened.

The patient entered the hospital on the ninth of November. The breast was then hard, resistant, very voluminous, irregularly nodulated, and adherent to the chest; the gland was recognizable no longer, and the nipple had disap-

peared within the tumefaction. The skin had changed somewhat in color, being now roseate and adhering to the subjacent parts. There were three openings from which a serous pus escaped, and the patient suffered, from time to time, from sharp intermittent pains, followed by a feeling of heat.

Five abscesses formed successively under the nodules, and gave issue to a yellow caseous pus. As soon as one of the abscesses had formed, emptied itself and cicatrized, another came, to follow in its turn the same process. Under frictions of potassium iodide, the breast diminished rapidly, the nodules disappeared, the pain ceased, and suppuration stopped, so that the patient left, on the 28th of October, with both breasts of the same size, the nipples well defined, and the gland itself presenting its normal size and mobility (Quoted by Dubar: "Tubercules de la Mamelle," p. 106).

Even a review of the histology and pathology of this subject would require far more space than the scope of an essay permits. It would be far better, it seems to me, to deal with the symptoms, so that we may be able to recognize the presence of tubercles, when in a breast, and not mistake them for some other growth.

Hitherto their existence in the mammary gland has been denied. This denial could not have been founded on exclusion, since tubercle is found in connective tissue (Virchow), which is abundant in these glands; nor by its physiological and pathological relations, for though these glands are separated by distance from the rest of the reproductive apparatus, yet they are intimately connected with it, and participate in the alternations of activity and rest which take place in the uterus and ovaries.

Seen from a clinical, or from an anatomical point of view, tubercles of the breast present two varieties, perfectly distinct from each other:

1. A disseminated form.
2. A confluent form.

In either form the onset is insidious; the tubercular matter is developed slowly, and without producing pain, and some time elapses, usually, before the patient becomes aware of any trouble in the breast. Sometimes, but very rarely, even at this period, one or more enlarged lymphatic glands, under the inferior border of the pectoralis major, may be found. They vary in size from that of an almond to that of a hen's egg; they suppurate, and a fistula remains, from which a serous pus, containing caseous clots, exudes. These openings, after existing for several months, may seemingly heal, but with the progress of the disease, in the substance of the gland, they reopen and again discharge.

1. The disseminated form.

Either there is no increase in the volume of the breast, or it is so slight as not to attract attention. The skin is not adherent to the anterior surface of the breast, the nipple retains its usual pouting form, and the mamma moves readily on the underlying tissues. Careful palpation detects hard masses in the substance of the gland. These are disconnected, variable in number, and the size seemingly inversely as their number. Usually they have the size of an almond, but may attain to that of a walnut. They have but little mobility, seeming to

be connected with the adjacent tissues. Their surface is roughened by granulations, their consistence is firm, though not cartilaginous. Seldom do they give rise to pain. They develope very slowly, and often after they reach a certain size the growth ceases. In one case, no increase in volume couldbe perceived, though four years had elapsed between the examinations. The termination of this form is unknown. Dubar says that he is unable, from his researches, to say whether they may disappear spontaneously in whole or in part, or whether, a subacute abscess being formed, they may thus be eliminated,

2. The confluent form.

While the disseminated form may remain latent during the lifetime of the patient, and only be recognized at the autopsy, this is not true of the confluent form. The tubercles, by their agglomeration and fusion, constitute tumors, which, on account of their increasing volume, cannot long remain hidden. The breast may in a few days double in volume from a sprouting out of one or more of these nodules. All these changes may take place without inflammation and without pain; while in other cases, febrile symptoms, gastric disturbances, and severe pain press hard upon the sick one. The pain may be continuous and lancinating, or it may continue several days, then disappear, then return anew. Palpation tells us that the growth is not equally distributed throughout the organ. It is confined to one portion of the gland, and here an ovoid body of uneven surface and variable size may be circumscribed. Almost unmovable in the substance of the gland itself, with which it seems connected, the tumor does not appear to send prolongations backwards. It is unyielding to the touch, and yet, by fixing the mamma by one hand, a sensation of fluctuation may be perceived. In that portion of the gland where the new growth is not so well developed only a diffused swelling exists. The lobulation of the gland can with difficulty be recognized: the skin is normal, is readily moved over the anterior surface of the organ, which itself is not abnormally adherent to the deeper parts. Should a puncture or incision be made into one of the fluctuating points, a varying quantity of a purulent liquid, containing caseous clots, will escape, and the volume of the breast will diminish. After a varying time—a month and a half in one case—the fistulous openings close, and a slight puffiness alone remains. Sooner or later, however, the swelling reappears, and a new incision is made or an opening appears, which remains permanent. When the fistulas are well established, the disease has reached its full development, and the appearance of the gland is characteristic. In that part of the breast greatest in size a well-defined tumor exists, and on a level with it one or more fistulous openings. At the anterior wall of the axilla, fistulas, in the centres of circumscribed tumefactions, with fungous ridges are found. The skin around these openings is a dusky red, and for a slight distance is adherent to the subjacent parts. The nipple may be retracted, should the fistulous opening be in its neighborhood. Behind the fistula, palpation reveals more or less extensive induration. At the axilla, the fistulas are not deep, while in the mamma the probe may penetrate from one to two inches. The exploration is not painful, nor does noticeable bleeding follow. The bottoms of the openings are found to be very soft and

friable. We would suppose that this ever-extending, though slow growth, would sooner or later destroy the whole organ. It is not impossible, however, that a portion of it may be spared.

The termination of tuberculosis of the mamma without intervention is unknown. Generally, a deposit in some other organ, as the lung, terminates the scene.

The existence of tubercles in the breasts has been demonstrated; the cases given leave no room for doubt, and although my own cases are open to criticism, as they lack histological support, they are nevertheless interesting from a clinical standpoint.

It may be said that I have done nothing new. I claim that I have at least called attention to, and aided in establishing more firmly:

1. That the breasts may be the seat of tumors similar to the pathological products, found in many other organs, to which the name of tubercle is given.
2. Tubercle in the mammary gland is much more common than is generally supposed.
3. That mistakes as to the true nature of these growths have often been made, and ablation of the breast, from a belief in their cancerous nature, has often resulted.
4. That during life we may by clinical observation distinguish these from other tumors.
5. That as no absolute necessity for the ablation of these tumors exists, we should refrain from operating, unless unequivocal signs of malignancy develop.

ARTICLE II.—THE INFLUENCE OF THE CONSTANT USE OF HIGH-HEELED FRENCH SHOES UPON THE HEALTH AND FORM OF THE FEMALE, AND UPON THE RELATION OF THE PELVIC ORGANS. Read before the Gynæcological Society, 1883. By SAMUEL C. BUSEY, M.D., Washington, D. C.

THE foot and its coverings is not a new subject. Far more attention has been given, however, to the style and display of the covering than to the comfort and physical well-being of the foot. The *Athenæum* attributes to Pliny the statement that shoes were invented by Boethum, but intimates that sandals in some form have been in use since the original pair discovered the difference between "the flower-carpeted paradise and the hot sands and sharp stones of that dreary plain." The ancient Egyptians made them of leather, and for the priests of palm leaves and papyrus. The Hebrews made them for soldiers of iron and brass, but for others of linen and wood; and the lovers displayed their gallantry by engraving the likenesses of the adored ones upon the soles of their foot-dress, "so that the pathways of the lovers became the picture galleries of the loved." The *calcei*, with uppers and soles of leather, were worn by those who walked much. The *soleæ*, which were variously ornamented, were for use in the house. The red or purple shoe was first worn by the kings of Alba, and last by the old Roman dandies. Then followed the sharp-toed shoe and half-boots of old Germans; the high-heeled, long buskins, and the shoe with leather soles of the Roman women, which enabled the wearer to move about at home with-

out any other foot-covering. The old bark shoe was probably the progenitor of the French sabots, which were in common use and very fashionable throughout Europe during the ninth and tenth centuries. During the reign of William Rufus, a famous beau, surnamed the Horned, introduced the long-pointed toes, twisted like a ram's horn; and during the time of Richard II. the toes were lengthened, so as to be fastened to the knees by chains of silver and gold. For three centuries the church and public officers inveighed against this fashion, but not until 1463 was it prohibited by an act of Parliament. Afterwards fashion and taste expressed their extravagance in increasing the width of the toe of the shoe, which Queen Mary was compelled to restrict to six inches; and then followed the elegant buff-colored shoes, with enormous and lavishly embellished tops. The heel at first was a device to make short men look tall, and, like the other parts, has undergone many changes to suit the whims of fashion and taste. The French high heel worn by women is not only very high, but also narrow, and inclines from behind forward, so that its inferior extremity (Onimus), instead of being under the calcanean tuberosity, is directly under the plantar arch; so that increased height, with diminution of the size of the foot, is secured. This style was introduced during the Regency. Under Louis XIV. the heel was high and circular, but not oblique. During the reign of Louis XVI. this objectionable style began to disappear, but has been again revived, and is perhaps more general now than at any previous time. During all these periods the feet were the objects of the most conspicuous vanity, fantastic conceit, and costly decoration. At some of the barbaric courts the soles of the shoes worn by men were made of plates of silver or gold, and the brilliant material of those worn by the ladies was half covered with precious stones. Even as late as the time of George III. a young married couple was presented at court wearing shoes with buckles worth two hundred thousand pounds. Popular patterns have, at different times, been designated by the names of prominent persons, or for a special class of the nobility, but only in a single instance known to the writer has a prince or emperor derived his name from the style and material of the shoe, and that one the brutal Caligula.* In the seventeenth century the patterns were greatly modified, and made more simple and less ostentatious, but with little regard to the physical well-being of the foot. Towards the close of this century Camper published his work on the best form of shoe, in which he discussed the question from the standpoints of anatomical construction, utility and comfort.

Every intelligent observer must have recognized the potent and pervading influence of prevailing fashions and common customs upon the human mind and body. Few, if any, can alienate themselves from the insidious and ever-changing agencies of association, example, and observation. Habit is not less potential in producing modification of form than in effecting alteration of single parts and disturbance of the functions of special organs. Everywhere, among all civilized nations, in all countries and climates, in every sphere of life and grade of society, in all trades, occupations, and professions, individuality is characterized by diversity of form, inequality of mind, gradations of caste, and varia-

* The historic details have been collated and condensed from Camper, Dowie, Onimus, and the *American Cyclopedia.*

tions in temperament, disposition, and constitution. If it were not so, human life would be simply the monotonous change from birth to death.

The causes that have produced these inequalities and dissimilarities in the descendants of a common parentage are as numerous and multiform as the distinctive differences of individuality. Nevertheless, we recognize types that distinguish races, nations, communities, and families. These types refer to modifications of form, and to the mental and personal qualities that characterize peoples, not individuals, and are the results of a complex and constantly changing combination of influences in long-continued, persistent, and habitual operation.

The variations in form of the types of the different races and families are far less marked than their social, mental, and personal qualities. It is not possible, at this time, to trace the gradual, imperceptible, and progressive evolution of these types of form, or to determine the combination of influences, or even the most constant or potential factor of any group or succession of circumstances, which have established the forms now accepted as the standard of race and family development.

The deviations from these types of species and families that distinguish individuality are even more numerous, diversiform, and variable than the differences of types of form; and their causes are equally diversified and composite, but very frequently can be ascertained with an approach to accuracy.

The evolution of the typical and individual forms of the female sex have, undoubtedly, been influenced, and in a measure determined, by the same general order and succession of events and circumstances of life; but the anatomical differences and peculiar physiological functions have so marked the general contour of form that concealment of sex is almost impossible, however skillful the effort to escape detection. These characteristics are not so apparent during the earlier years of life, and it is not improbable that if the physical, mental, and moral training were alike in both sexes, subsequent and mature development would exhibit, in the general outlines of form, fewer and far less obvious dissimilarities.

Age, pregnancy, and maternity are manifest and admitted agencies in the causation of deviations of the female form. Stature and the habits of posture and carriage are perhaps equally potential. The development, tone, and exercise of muscles; sparseness, redundance, and distribution of adipose tissue; laxness or tension of articulations; the mobility of joints, and degree and extent of the normal curves, are also factors, operating either singly or conjointly, sometimes as primary, and at other times as correlative and compensative, agencies. Asymmetry, either connate or acquired, is the most common of physical defects. Lateral asymmetry is the ordinary result of over-use or disuse of corresponding parts. Disproportion between the trunk and lower extremities is more frequently a natural defect of embryonic and pre-natal development, and is a characteristic of some species and of many families.

From the foregoing considerations it must appear that the study of the natural history of the evolution of the types, variations, and individualities of form would involve an extensive research in ethnology; the determination,

grouping, and sequence of causes; and an examination of the mechanism of the human frame and its adaptation to the exigencies, mutations, and successions of life. Into such an inquiry I do not propose to enter.

The study of the influence of a single factor, such as I have indicated, is embarrassed by all the conditions of life to which I have referred. Hence the dogmatic assertion of any general law, applicable alike to the different types and diversities of form, is unattainable. Experimentation is impracticable, except under circumstances that would admit of the comparative management of two identical forms, under like conditions and development, from early life to maturity, and even to advanced life: the one being subjected to the artificial props beneath the plantar surface, and the other left to bear her weight upon the unprotected soles of the feet. Of the first, numerous illustrations in process of continuous development are supplied in every town and village in the country. To secure the latter would prove a difficult task in this esthetic age. I must therefore be content with a cursory and general presentation of the subject, and the conclusions reached through the processes of observation and inductive reasoning.

Paget has supplied the following description of a perfect female foot: "Great breadth and fullness of instep, a well-marked great toe, a long second toe, projecting a little beyond the great toe, and a very small, or in some cases almost suppressed, little toe." The foot is divided into the tarsus, metatarsus, and toes; and the sole is so formed that we rest upon the heel; the articulation of the instep with the toes, and, externally, upon the tuberosity of the fifth metatarsal bone. The bones of the foot form a double arch, the inner span extending from the heel to the distal end of the first metatarsal bone, and the outer span from the heel to the fifth metatarso-phalangeal articulation. The elongation of this arch is of a two-fold character; first, by flattening under the weight of the body, and consequent recession of the toes and heels, and lengthening of the foot forward and backwards; the second, at the articulations of the instep and toes, when the toes are turned upward, and is due to the hinge-like nature of these joints. When the toes are stationary upon the ground, elevation of the heel will produce elongation backwards. This backward elongation is to a considerable extent compensated by the tension of the muscles of the sole upon the heel bone, and the consequent elevation of the height of the arch. This double-spanned arch also possesses lateral expansion.

The feet and legs constitute a complex arrangement of levers with movable fulcrums, hinge-like and socket joints, surrounded by elastic and elongating structures of very variable strength and tensile mobility, so that every deviation of the base of support is so quickly compensated that equipoise is maintained. In walking, the heel touches the ground first, and supports (Onimus) the whole weight of the body for a moment. A little later the point of the foot touches, and assists in preserving the equilibrium by increasing the base. During the second movement of walking the heel is raised (see Figs. 2 and 3), and the weight of the body is shifted more and more to the centre of the foot and to the toes, the latter spreading and pushing the body forward. This last is the movement which displays to the greatest advantage the suppleness and elasticity of

the articulations of the foot, and the adaptation of the arch to receive the weight of the body and to transfer it to its distal pier, while the body is being moved forward by the same act. It is the execution of this movement which gives to the gait of women that elegance and those graceful undulations which are so attractive. Comparative observations show that high and narrow heeled shoes not only displace the supporting base and upper part of the foot, but so modify the movement that there is no longer succession of contact and pressure. Practically both piers of the double-spanned arch strike at the same time, and from the moment of contact the weight of the body is upon the distal pier (Fig. 3) and toes. Hence, walking, instead of being undulating, is stiff and hobbling, and the body advances by jerks.

Fig. 1.

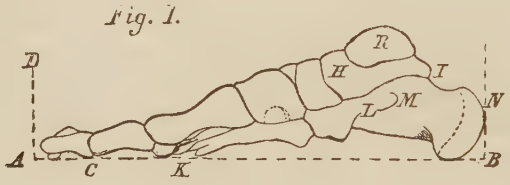


Fig. 2.

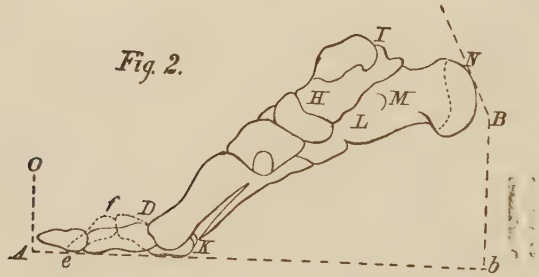
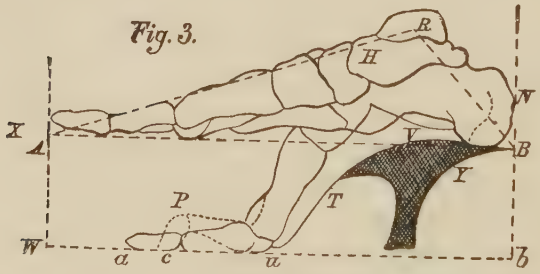


Fig. 3.



(From Camper.)

The bones of the instep are capable of but very little movement. When standing, the heel bone (*N M I*, Fig. 1), the joint at *K*, and the great toe *A C*, touch the support upon the line *A B*. When the feet are shod according to the present fashion, the line *A B* is made to assume the concave form shown in Fig. 3 by *B V T u*. The instep is made more convex and rounded, which is specially esteemed by a certain class as a peculiar beauty, and the foot is actually shortened (see *A B*, Figs. 1 and 2). In those long accustomed to such shoes it is more than probable (Camper) that the heel bone receives the astragalus (*H*, Fig. 1) upon the eminence *M L*, and the astragalus (*H*, Fig. 3) is bent

downwards. This is most apt to occur in young persons, while the neck of that bone remains cartilaginous. The constant elevation of the heel places the body of the pedestrian in the same position as when standing upon an inclined plane, which is not only a weak attitude to sustain weight, but very fatiguing to the muscles thus called into action, and compels the lifting of the knee higher. It imposes also a greater expenditure of force, because a new start is made on stilts from a comparative state of rest at every step. Again, the heel is so shaped and located (Dowie) that it forces up the key-stone of the arch, and weakens the whole structure. If the arch needs support the span of the support ought not to be less than that of the arch, yet the mechanical construction of the shoe heel and shank not only ignores this principle, but may injure an arch needing strength. The alteration of the normal line of the sole of the foot, caused by the rigid fixation of the arch in this strained position, produces atrophy of the muscles of the heel, instep, and ankle, because of the comparative disuse; weakens the lateral and longitudinal arches; increases the curve of the sole, giving rise to a rocking motion and jolting gait, retarding progression and consuming muscular force; bends the toes upward, thus injuring the muscles of the sole by too continuous extension, and those above by excessive contraction; injures the fleshy part of the great toe by too great and constant pressure; cramps the toes; diminishes the elasticity of the foot; prevents elongation of the arch, and the ready adaptation of the system of levers to the variations of stature; calls into action strained muscles, and imposes upon them unaccustomed movements; and so disturbs the natural bearings of all the parts as to interfere with the general health.

A comparison of the normal or perfect female foot and the malformed foot represented in Figs. 2 and 3 ought to convince the most enthusiastic devotee of the evil effects of the French high-heeled shoe. A further examination of the diagrams will show that the toes may also be greatly distorted. The continuous pressure upon the joints of the instep and toes and the tension of the muscles and tendons of the sole of the foot produced by the misplaced heel distorts the toes, as shown by the lines *D f e* in Fig. 2, and *a P c* in Fig. 3, so that the tread of the foot, represented in length by the line *A B*, is shortened by the distance *A e* in Fig. 2, and *W c* in Fig. 3.

The astragalus receives at *R* (Fig. 3) the weight of the body, which is transmitted along the lines *R B* and *R A*. If the hollow of the foot should be made to touch the ground, the line *A B* would be lengthened by the distance from *A* to *X*. The conditions of superincumbent weight, which would thus flatten the arch and increase the length of the foot, might exaggerate the deformity shown in Fig. 3 in a foot geared in this style of shoe. The diagrams show, furthermore, that the measurements taken in the air, as is usual, of feet thus distorted, are necessarily too short, and the feet will be cruelly pinched in the erect position between the lines *N B* and *A O* (Fig. 2) by shoes made by such measures.

The casual observation of awkwardness and unsteadiness of carriage of the wearers of high-heeled shoes, and the occasional occurrence of injuries to the feet and ankles attributed to their use, had long ago impressed me with the belief

that the inexorable precept of fashion had lengthened the shoe heel far beyond the conveniences of easy and graceful locomotion, and that results would follow their continued use other, and perhaps graver, than the callosities, bunions, ingrowing nails, sprained ankles, and painful calves which so frequently torment the votaries of this reprehensible practice. But not until I had seen, under advantageous circumstances, not long ago, at a fashionable summer resort, the most advanced style of full toilet foot gear, did I appreciate the probable extent of its influence upon the growing form of the female. It had become the custom for the lads and misses of all ages, from five years to early puberty, to assemble, during the evenings, in the parlor, and engage in the dance. This company comprised many different sizes and forms, which exhibited the grades and phases of childhood development in great variety. The feet and ankles of the larger number of girls were geared in shoes with heels so high and slender as to fasten them in the position as if always walking down hill, the toes being pushed more and more forward. The rigid fixation of the feet in this unnatural position diminishes their size, lessens the spring and elongation of the double and elastic arch of the instep, and confines the muscles, tendons, ligaments, and bones in strained relations, impeding, if not arresting, the processes of formation, waste and repair. It disturbs the articulation of the diversely shaped surfaces of the many small bones comprising the instep, destroys the easy, free, and elastic mobility of the tarsal and metatarsal joints, and transforms the tarsus, metatarsus, and phalanges into a rigid body not unlike a shoemaker's last. The excessive elevation of the heel displaces the centre of gravity, which should coincide with the centre of movement, and transfers the weight of the body, for the most part, from the heel to the metatarso-phalangeal articulations—joints arranged with shallow sockets to facilitate movement in every direction, and to expedite progressive motion, but not to bear the burden of the body-weight.

The movement, attitude, and poise of those whose feet were thus tackled with fashion's latest and choicest pattern of high-heeled shoes were in marked contrast with those of the less ostentatiously dressed, who retained the free and natural play of their muscles and joints, and the capacity and elasticity of motion and posture which restore the body to its balance from any slip or vacillation without apparent effort. The movements of the former were stilted, uneasy, restrained, and executed with caution, under mental strain and with unnecessary expenditure of force. As I sat, evening after evening, in that gay saloon, a silent and unknown spectator, I could see the gradual effacement of the merry dimples and glow of health from their cheeks, the deepening lines denoting wear of body and tire of nerve, and the pallor of distress creeping over their youthful faces, as they limped or staggered to places of rest.

The physical well-being of the feet is a necessary and important part of the general sanitation of health. Pedestrian exercise is the great promoter and conservator of functional activity and constitutional vigor. To enjoy it, and to realize the benefit to the fullest extent, the feet must be healthy and the foot-tackle free and easy. Sore, contracted, and crippled feet, strained and stiffened joints, altered and displaced articulating surfaces, restrained mobility, and alteration of the line of gravitation (any one or all of which results may find their

cause in too early and too constant use of high-heeled shoes) impede and augment the fatigue of locomotion, and make walking exercise painful. *Per contra*, they conduce to the acquirement of ungainly habits of carriage; to disproportion of the component parts of the body; and to a sedentary life, with its manifold disturbances of the animal economy. Yet how many matrons throughout the land will entail upon the mothers of coming generations some one or more of these injuries, with the long train of consequent sufferings, rather than abondon the fashion of a shoe!

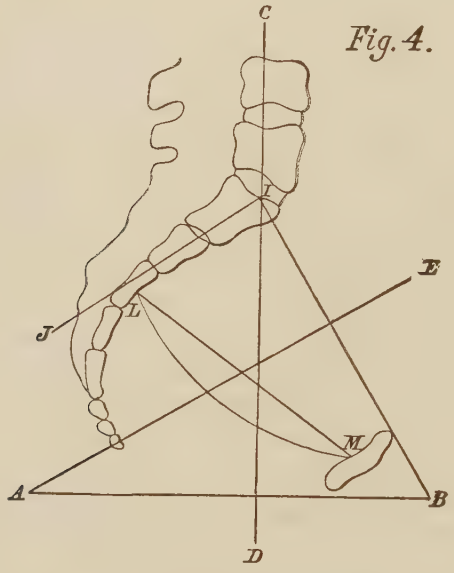
The injuries are not, however, confined to the feet, their joints and component structures. During the same series of observations I had the unusual opportunity of studying the influence of heel-elevation upon the general outlines of the body; for the exuberance of fancy in toilet was not limited to esthetic decorations of the calves and feet, nor were the devotees of extreme styles narrowed to the ages of growing and immature girls. I could outline the comparative increase of the ankle, knee, and ilio-femoral flexures, and the exaggeration of the curves of the spinal column. These alterations of the natural angles and curves give the fore and aft outline of the general contour an in-and-out or zigzag course. The degree of the angles and radii of the curves vary according to stature, form, and size. The law of adjustment seeks compensation for the primary deflection by exaggeration of the nearest flexure in the opposite direction. The elevation of the heels displaces forward the base of the line of gravitation, and transfers greater weight to the distal extremity of the plantar arch. The equilibrium of the body can only be maintained by increase of the natural bendings and curve along the lines of the bony framework. These angles and curves are usually so concealed or obliterated by the necessary coverings and decorations of the figure that the effect upon the attitude and pose of person is not necessarily either displeasing or unattractive. The opportunities for embellishment are rather increased than diminished. Art and nature may become co-laborers in the display of artistic costumes and in the arrangement and deception of adornments, if taste and delicacy are not outraged. The exaggeration of the dorso-lumbar curve* gives fullness to the buttocks, rotundity and plumpness to the abdomen, elongates the chest, and increases the prominence of the bosom; to which in some are added, by the compensating change in the position of the head, elevation of the face, and rounding and filling out of the neck and throat, with effacement of the depressions and irregular outlines—the whole imparting to the general carriage an air of haughtiness and command, which happily is often modified and softened by the innate womanly virtues which find expression in the language of the face and tongue. But I am seeking to present the subject in its physical, and not in its decorative, aspect.

The uterus occupies nearly a central position in the pelvis, is "delicately and unstably poised," and is supported "on every side by the soft and elastic structures which everywhere surround it as closely as if it were enveloped in a fluid." Its longitudinal axis is coincident with or parallel to the axis of the plane of

* This "peculiar bending of the back in the lumbar region" Onimus calls "*l'ensellure*, from its resemblance to the appearance of a horse's back which has been accustomed to the wearing of a saddle."

the pelvic brim, forming, with the vagina anteriorly, and upon itself at the junction of its cervix and body, very obtuse angles. So that the line of gravitation, which, because of its position and attachments, is through its longitudinal axis, would, according to natural laws, be vertical through its centre of gravity. Its centre of gravity, being supposed (Duncan) to be the centre of its mass, must be above, and the vertical line of gravity must be anterior to, the cervical attach-

Fig. 4.



PLANES OF THE PELVIS, WITH HORIZON.

A, *B*, Horizon. *C*, *D*, Vertical line.
A, *B*, *I*, Angle of inclination of pelvis to horizon, equal to 60 deg.
B, *I*, *C*, Angle of inclination of pelvis to spinal column, equal to 150 deg.
C, *I*, *J*, Angle of inclination of sacrum to spinal colum, equal to 130 deg.
E, *F*, Axis of pelvic inlet. *L*, *M*, Mid-plane in the middle line.
N, Lowest point of mid-plane of ischium. (FROM PLAYFAIR.)

ments. The plane of the brim inclines (see diagram No. 4) at an angle of 60°, and the longitudinal axis of the womb, vertical to this plane, inclines at an angle of 30°. This relation, though not mathematically accurate as thus expressed, is the generally accepted rule of normal anatomical relation in the erect position of the body, except so far as it may be disturbed by the exigent oscillations, within a limited arc, of a body so delicately poised amidst contiguous organs subject to such fluctuating conditions as the female pelvic viscera. Then, so long as the coincidence or parallelism of these axes is maintained, so long will the uterus approach the horizontal line, in direct proportion with approximation of the plane of the brim to the vertical line; consequently, as the inclination of the plane of the brim increases or diminishes, so, reversely, will the uterus, through its long axis, approach or recede from the vertical line.

The weight of the trunk is balanced upon the ilio-femoral articulations, and "the centre of gravity of the parts above is (Duncan) nearly vertically over

these articulations." The line of gravitation and the axis of the body,* though not universally believed to be coincident lines, are, with sufficient accuracy, represented by a vertical line bisecting a horizontal line passing through the centre of the ilio-femoral articulations. The centre of gravity and line of gravitation vary with every backward and forward movement of the trunk upon these joints; and the inclination of the womb follows the variations in the inclination of the pelvis, according to the law as previously stated. In an elastic and flexible body, like the human form, with its numerous deviations from a straight line, nature re-adjusts disturbances of equipoise by compensating alterations of the bendings and flexures.

The question now arises, How are these relations of the natural conformation influenced by the excessive and constant elevation of the heels by the use of high-heeled shoes? The primary deflection of the line of gravitation takes place at its base, The ilio-femoral articulations being the pivot upon which the body is balanced, and the fulcrum of its support, and the long arm of the lever being all that part of the stature above these ball-and-socket, and most movable of the limb-joints, readjustment of equipoise is necessarily most easily and quickly restored by increased flexion at the hip, with displacement backwards of the pelvis, which sooner or later will find its compensation in exaggeration of the dorso-lumbar curve. The law of compensation which determines other and permanent alterations of form is well defined, though subject to many variations dependent upon size, height, general conformation, and habit of carriage.

This law may be briefly stated as follows: Every primary curvature is compensated† by a second and generally equal curve in the opposite direction, usually occupying the part of the column immediately adjoining the first, and may follow the column in extended sequence of two, three, and even four deviations. The compensation in lordosis is obtained by increased inclination of the pelvis. The ordinary anterior curvature in the loins involves a corresponding displacement of the pelvis backwards, and more especially when the lumbar curve is itself compensatory and consequent upon too great inclination of the pelvis. The latter is most frequently the primary deviation. Pelvic inclination and dorso-lumbar curvature bear a direct and positive relation to each other, the excess in either being compensated by a corresponding excess in the other, so that cause and effect react upon each other, producing increased backward displacement of the pelvis and greater spinal curvature. In curvature of the lumbar region forwards, and "in excessive inclination of the pelvis, with which the lumbar curve coexists and to which it is due," the chest is increased in length; and while the breadth of its lower part is strikingly greater than natural, it is very pointed above, and flattened from before backwards. Of course

* A summary of the conclusions of Rokitansky.

† In the diagram of Hodge ("Disease Peculiar to Women," pp. 317 and 328), the axis of the body is represented by a line touching the anterior surface of the third lumbar vertebral articulation, and passing through the body of the ossa pubis. In his "System of Obstetrics," p. 30, Hodge says, "The axis of the body, when in the erect position, may be represented by the line of gravity. This line of gravity, or vertical line extending from the top of the head to the ground, passes through the lumbar vertebræ, the base of the sacrum, and cavity of the pelvis a little anterior to the tubers of the ischia, bisecting a line drawn through one acetabulum to the other."

the ordinary movements of expansion and contraction of the chest are disturbed, the diaphragm is depressed, the abdominal organs are displaced downwards, and the vertical pressure of the superincumbent viscera upon the pelvic organs is increased. This pressure does not impinge upon the top of the fundus of the uterus *in situ naturali*, but upon its posterior surface. The tendency, therefore, of (Hodge, Duncan) all pressure from above, the accumulated weight of the organs, aided by the contractions of abdominal muscles, is to press the fundus downward towards the pubis, and to carry the cervix towards the hollow of the sacrum. When the organs are healthy and in a natural position the forward proclivity of the fundus is prevented by the presence of the bladder and small intestines in front, and the ascent of the cervix is resisted by the mass of intestines in Douglas's cul-de-sac. "The bladder (Aveling), when filled, is a heavy organ. In the erect posture, when the pelvis is normally inclined, it rests upon the pubes; but when the pelvis is tilted back, the whole weight of the urine gravitates directly into the pelvic cavity, and presses upon the anterior wall of the vagina. Should this be weakened by disease or child-bearing, it gradually descends and allows the bladder to fall back, describing in its progress an arc of a circle around the pelvic bones, to which it is anteriorly attached." Thus, in cases of excessive pelvic inclination, the viscus, which is directly instrumental in the redression of the womb and in the preservation of its mobility, becomes a potential factor in establishing a malposition, and complicates the uterine displacement with frequent, difficult, and painful micturition. Cystitis, as the necessary result of incomplete evacuation, may also add its chain of suffering, unsatisfactory cure, and frequent relapses. The rectum is an important organ, and it is not improbable that the disturbance of its postural relation with the sigmoid flexure, by excessive inclination of the pelvis, may promote the establishment of the habit of constipation, which is so common among females, and so often the cause of no less intractable, but even more painful, affections.

The uterus is so delicately poised *in situ naturali* that it is probably never at rest during the lifetime of a woman. The varying conditions of vesical repletion and collapse, of rectal emptiness and distension, and the movements of respiration keep it constantly moving up and down a plane acutely inclined to the line of gravitation, and to and fro on its transverse axis. This mobility and incessant movement constitute the necessary and most essential method of uterine hygiene. It is this local exercise that promotes healthy circulation, expedites the processes of change and repair, prevents congestion, maintains normal nutrition, and preserves functional activity.

The vascular, postural, and nutritive disturbances growing out of deflections of the skeleton, which I have attempted to show, may find their starting-point in too great and habitual elevation of the heel, are not necessarily confined to the bladder, uterus and rectum. All the tissues and organs, the vagina, ovaries, Fallopian tubes, ligaments and fasciæ, may become involved. Hyperæmic conditions, distortions and displacements, either singly or collectively, may follow in an extended sequence of local and general disorders, but menstrual disturbances and vaginal discharges are probably more common.

To enumerate these affections would extend this paper beyond a reasonable limit. I might show that diminished mobility of the uterus and excessive inclination of the pelvis, with other and consecutive alterations of form, enter also into the causation of posterior deviations and descent. The moment the fundus, in posterior oscillation, passes in the arc of rotation beyond the point of greatest tension of the round ligaments, that moment their action carries the fundus down the arc of rotation towards Douglas's cul-de-sac. This movement would be aided by vesical repletion, deflection of the line of gravitation and of the vertical pressure of the superincumbent viscera, transference of the intestines from the anterior to the posterior surface of the womb, and by relaxation of the abdominal walls.

The equipoise of the body upon the ilio-femoral articulations must be preserved, and Duncan has called attention to the fact that, while "the small and especially short-bodied women" seek the readjustment of the centre of gravity by moving backwards the head and shoulders, "the tall and long-bodied" seek it by moving forward the supports, which is accomplished "by diminishing the angle which the pelvis forms with the horizon." This change in the pelvis is analogous to that taking place in old age, when the forward stoop is counterbalanced by it. The same distinguished authority points out the fact that when adjustment is effected by backward inclination of the head and shoulders, the hips become prominent, indicating "a probable considerable obliquity of the pelvis." In the other class the hips are flattened, indicating lessened obliquity and elevation of the pelvis. These mal-relations of the pelvic and corporal axes are consequent upon pregnancy, and may also follow acquired habits of carriage and posture, such as I have suggested ensue from the constant and habitual elevation of the heel.

I might also trace the obstacles which excessive inclination of the uterus, and consequent backward displacement of the os and cervix, present to the transmission, tubulation, and lodgment of the sperm cell, impeding the processes of insemination and fecundation, and producing sterility. I need not pause to consider the obstructions to parturition which excessive pelvic inclination may offer, or to trace them back to the gearing of the feet in earlier life. They are sufficiently obvious to every obstetrician.

Onimus says the local and functional troubles are frequently mistaken for strange manifestations of hysteria, varying according to the temperament and predisposition, and very often concealing the true nature and origin of chronic invalidism. In Paris young girls often complain of violent pains in the muscles of the leg, which extend along the external region of the calf to the thigh. A sharp pain from the sole of the foot to the external malleolus is the most frequent initial symptom. The articulations of the knees are many times equally painful, simulating the condition one feels after descending from a high mountain, which has occupied several hours. But the long peroneal muscle is the one most often affected, because it is most fatigued by the irritation transmitted by its tendon from its insertion at the great toe along the plantar arch. The constant tension of certain muscles, to maintain the equilibrium rendered necessary by the height of the heel, produces painful cramps and a sensation of constric-

tion, even when not walking, and young girls are compelled to seek relief from the lancinating pains by rest in bed. It is easy to comprehend how the general health may be influenced by such functional and local disturbances, and when such conditions exist in women, where the nervous systems are always waiting for an opportunity to become troublesome, we may look for serious pathological consequences.

In the foregoing presentation of the subject, I have endeavored to confine the discussion to the physical aspect of the question, and to trace out the relation of cause and effect which may subsist between the prevailing fashions of foot gear and many of the maladies which come under the observation of the gynæcologist.

ARTICLE III.—DYSTOCIA IN A CASE OF TWINS, WITH A LUSUS NATURÆ IN ONE OF THE CHILDREN. Notes of the case. By EDGAR W. ROBERTSON, M.D., Onancock, Acco. Co., Va.

March 9th, at about 1.30 P.M., I was requested to visit Mrs. R., in her second labor, about seven miles in the country, the messenger alleging that a child was born about 8 o'clock A.M., and another one to be delivered. Before reaching the patient another messenger met me, telling me to hasten on, as they regarded her condition serious; and as I drove in the yard gate some one informed me that she was dying.

I found one child born as stated; the woman in agony with a second child, which was presenting head and feet, and, giving her morphia, followed by a stimulant, then chloroform, essayed to change position of child by manual measures; then applied the forceps as best I could in the condition and position of parts, but both times they became disengaged. I then turned my attention to the crotchet, but, upon reflection, desisted before perforating with the scissors, and concluded to send back to town to Dr. L. to assist me; the friends, in the meantime, were clamorous for delivery, on account of imagined failure of strength on the part of the patient. After well-nigh straining my muscular system to its fullest capacity, I encouraged the congregation (too great an audience under the circumstances) of friends to be "cool," and gave the patient the attention best to my ability, until about 6 o'clock, when Dr. L. arrived. I pushed the chloroform further at his suggestion, and he attempted to turn, but was not successful. At his request, I again introduced my hand, and finally, after repeated attempts and failures, succeeded in bringing one foot near enough to the os vaginæ to admit of the passage of a strip of new, stout calico around my hand or wrist, by Dr. L., and together we slipped it over my hand, and beyond, and then around child's ankle, and, being tied, pulled child down, and delivered, of course, by pedalic version. The child was "still-born."

The woman did well, and scarcely had any fever during the eleven days seen.

And now to the first child: As formerly stated, this child was born some seven hours before my arrival (from 8 A.M. to about 3 P.M.), and as the midwife failed to notice anything unnatural about it, or report it if she did, my attention was not especially turned to the child, except to prescribe spirits of nitre for a little temporary urinary retention, until the 12th, when the mother informed me that she did not believe it would live, because it had no "vent" to its bowels.

I immediately had the child stripped, and, on inspection, found a well-formed male child, with this exception: not the slightest sign of an anus, nor any bulging of the bowels. The child vomits, and nurses some.

13th, 5.40 P.M.—Again examined, and Mrs. C. and I saw and perceived the odor of meconium on the napkin; and on further watching, saw solutions of it pass from the penis. The child has natural ways—sleeps and nurses. The raphe reaches from the penis to a point just over the end of the coccyx. No bulging of the parts in the least—they are as yielding and slack as linen.

14th, 3.30 P.M.—"Baby living?" "Yes, sir." "Pass any more?" "Yes, sir; just like it was last night, precisely."

On inspection, find napkin besmeared with dark, offensive meconium, and the same dark fluid oozing from the urethra. It has a fishy-like odor. Abdomen tympanitic, as ascertained by percussion. Nurses but feebly; not vomited to-day. Sleeps pretty nearly all the time.

Put the thermometer in the axilla and it would ascend no higher than 96°.

15th.—Comments: That a fluid, such as urine in the bladder, will tend to keep fæces soluble, and thus facilitate passage, would be admitted by most non-medical minds, as I remember to have interchanged views to that effect with some on that point. But on reflection, my experience with searchings for gall-stones, by making fecal solutions by means of water passed through a sieve would seem to favor the practicability of such a passage through the urethra. Something will depend upon the size of the channel, or the nature of the communication with the bladder. There can be no doubt, however, of such fecal passages in this case. The urethral discharge was different at different watchings; for, after noticing that of meconic nature, also subsequently saw that of urinary character dribbling (not continuously) from the penis, over the testicles.

This would point to one of two things: Either that the fæces were washed from the bladder as it was there deposited or dissolved; or, another passage or tract leading through to the upper part of the urethra below the cystic cavity.

3.10 P.M.—At the house they tell me the baby nurses more freely than yesterday; has not vomited, and passes the characteristic discharge. On inspecting the napkin find it so, but less than that found on yesterday's examination. Child cries strongly.

4.30 P.M.—Thermometer 96°. The discharge passed in my presence is more urinary, though the soiled napkin shows the characteristic dark passages.

4.45 P.M.—Just met Dr. L. on street, and showing him one of the napkins obtained a day or two ago, agreed with me that it was meconium.

17th, 3.55 P.M.—The family testify that it nurses heartily, cries naturally, sleeps well, and the mother now "supposes it is going to live."

(This is the 9th day.) 3 P.M.—Thermometer 98°. The discharge more of a yellowish-green now.

19th, 10 A.M.—The baby sleeps, nurses, evacuates "same as he generally does" (mother). Inspection evidently shows fecal passages on napkin of a darkish greenish-yellowish color. The feet and hands have bluish appearance, which the mother has noticed all along. No evidence of the establishment of any other fecal outlet, but thought yesterday I observed little circumscribed

bulging or firmness in the raphe, about the size of a grain of wheat, when I made the skin tense. I can see no evidence to-day.

The child is somewhat jaundiced, especially in facial region. The child's expression I think less distressed to-day; seems less narrow. The prepuce slightly swollen, and the scrotum and joint flexures on either side have a slight tendency to erythema. The child's chance seems to be in favor of life, perhaps, but expressed by the term precarious, as it might be made an easy victim to death.

20th.—Just met Dr. L., who, on being informed by me the child was still living, and passed its feces in spots on napkin something like a chicken, supposed the urethra must be large. But informed this was not the case. Seemed to think it would die—though the books speak of such cases. The child died a few days afterwards. No post mortem

RÉSUMÉ OF ORIGINAL ARTICLES

IN OTHER JOURNALS.

Pleural Vicarious Menstruation.—Dr. J. H. Lee (*Southern Practitioner*, March, 1884) reports the following case: A sixteen-year old plethoric and highly-nervous girl had not menstruated for four months. He found that she had an intense headache, flushed face, coated tongue, deeply congested, hurried respiration, pulse 120, temperature 102, severe pains in the side resembling in character pleuritis, and dragging pains in the pelvis. The young lady, according to her mother, had been quite regular until the present, which she thought to be about time for her turn. The diagnosis was pleurisy, complicating a natural inefficiency to re-establish the menstrual function. She was ordered a free purge (saline cathartics), with opium and quinine, in conjunction with a hip-bath, and blisters to the side. Next morning, to his disappointment, Dr. Lee found not one symptom allayed. The blister instead of relieving, had added to the pain in the left side. Addressing the young lady in plain and positive terms, she said that since her twelfth year she had intermitted from two to three months, up to four months ago, since which time she had seen nothing, except one day at the beginning of the present illness, which was suddenly checked by getting her feet wet. At each menstrual molimen, when the discharge did not appear naturally, she would be troubled with epistaxis. Dr. Lee followed nature's suggestion, by taking at least ten ounces of blood from the arm, followed by instant relief.

Oöphorectomy.—Dr. H. R. Bigelow (*Cincinnati Lancet and Clinic*, March 29, 1884), says that speying is always a matter of very serious consideration, and it becomes doubly so in those patients who happen to be within the pale of kinship. The temptation to its general adoption by gynecologists is a great one—younger men will practise it for the sake of

reputation and statistics, and older men as a plausible way out of a puzzling dilemma. However little it may affect the child-bearing function, already rendered practically impossible in women suffering with degenerated ovaries, and in however slight a degree it may influence the feminine graces, the fact remains that the woman will always feel that she has been deprived of a distinctive, integral factor in her sexual make-up. Except in especially aggravated cases, he thoroughly believes in the efficacy of medicinal treatment. If the patient can be controlled for a sufficiently long period of time—months, or even years, perhaps—watching every symptom and meeting each emergency; if the physician regulates hygiene upon an intelligent basis, reduces congestion by appropriate treatment, remedies the dislocated uterus in such ways that the remedy may not be worse than the disease; if the patient is not cured, her life will be so rendered bearable that she will never think of having recourse to surgical interference. Dr. Bigelow never yet used a pessary in any of these cases complicating a displaced uterus, and probably never will if he continues to hold to his present way of thinking. Only in exceptional cases does he use a pessary in any event, because he is firmly convinced that the whole theory governing its use is radically wrong; and in the same degree that he deprecates the indiscriminate use of pessaries, so he condemns the use of the sound within the cavity of the uterus for its restoration. He does not mean to affirm that there are not certain conditions in which the sound, in scientific hands, is of great avail; it is against its general use that he is opposed. In looking back over the histories of his cases, one of whom has now been under observation for five years, he sees no reason to regret the postponement of surgical interference. A most aggravated instance has now been under care for some years—a long period of time—but when weighed in the balance with the suffering that preceded treatment, it shall count as nothing. In this woman every painful symptom has been gradually alleviated; and while the steps to improvement have been most insensible to herself, and while she has had much to discourage, she has the assurance now of a bright future, and with all the attributes of her sex untouched. The opinions of Dr. Bigelow are borne out by Dr. Battey's comment (*Chicago Medical Review*, vol. 5.) on Dr. Tait's numerous oöphorectomies: "That if he (Dr. Battey) could get as good results from the operation as Tait he would do it oftener."

Fracture of the Sixth Cervical Vertebra.—Dr. McGrew (*Medical Age*) reports the following case: The patient was a nineteen-year old boy who had been tossed by a bull. On examination, there were no marks of external violence, with the exception of a scratch across the back, in the cervical region, evidently made by the bull's horn. The legs felt as if they were dead, and examination revealed marked paraplegia. There was found great tenderness on pressure in cervical region of the spine, but no deformity. The patient was re-

moved to bed and placed in recumbent position, with directions to apply ice to seat of injury and to observe perfect rest and quiet. By the same evening there was no marked change. Some distention of the bladder, which was relieved by flexible catheter. On the evening of the next day the patient became quite restless. The thermometer registered in the axilla 105° F., and between the thighs 107° F.; pulse averaged 90. He was ordered potassium bromide, gr. xv.; chloral hydrate, gr. x.; to be repeated every two hours until sleep was produced. The bowels were kept open by enemas, and catheterization was practised twice daily. No unusual amount of cystitis occurred. The patient was able to partake of considerable nourishment from day to day. No signs of improvement occurred as regards the paralysis, but, on the other hand, the paralysis of the upper extremities increased. Ten days after the injury, respiration became markedly affected, and from that the patient gradually sank, dying twelve days from the receipt of the injury. Autopsy revealed a complete fracture, through the body, of the sixth cervical vertebra, also through the superior articular process, with marked displacement. Fracture extended through the lamina of the fifth cervical. The cord was very much softened and broken down, as a result of inflammatory process. It is to be regretted that a more careful autopsy was not made.

Treatment of Sycosis.—Dr. Gamberini (*Journal of Cutaneous and Venereal Disease*) says: Wilson usually advises avulsion of the hairs and the application of parasiticides, especially corrosive sublimate, or iodide of sulphur in ointment (2—30). Of the same therapeutical opinion are Tilbury Fox, Anderson, Behrend, Piffard, Duhring, Bazin, Hardy, and all those who recognize the parasitic nature of the disease. In his clinic Gamberini follows the following practice: As epilation is troublesome and often painful, he commences with emollient cataplasms in union with belladonna. After this he removes the hairs as completely as possible, and then applies the parasiticides, using by preference the oil of cade and tincture of iodine. When the sycosis is severe with extensive infiltrations, excisions and carbolic lotions are used. It should be remembered that sometimes alcoholism, syphilis, scrofula, and arthritism complicate the trouble, and should be taken into serious clinical consideration and the appropriate remedies adopted. Before treating the case, however, it is important to ascertain whether it is simple or parasitic sycosis. In non-parasitic sycosis, if the disease is produced by a local cause, the removal of the same is necessary. The crusts are to be softened and removed by oily or slightly carbolated lotions. After this, epilation should be practised as in the parasitic form, insomuch as the hairs act as foreign bodies and tend to prolong the inflammation. If epilation is not performed, the inflammation may run so high as to completely destroy the follicle. Gamberini therefore urges artificial epilation. This sometimes becomes troublesome, because the hair becomes firmly

fixed during the early period of the peri-folliculitis. The hairs having been removed, it is necessary to seek the resolution of the peri-follicular inflammation, which is accomplished with diachylon or Vigo plaster, with sapo viridis or potash, diluted with glycerin or vaselin. Sulphur, sulphur iodide, white or red precipitate, or mercury biniodide may be used. If the pus is deep, it must be let out with the lancet. Plumbe and Wertheim recommended the daily shaving of the hairs. This method may have its advantages, but it is usually disagreeable to patients, and does not compare in usefulness with the epilation. Duhring especially recommends external treatment, at the same time paying attention to the patient's general condition. He insists on the removal of the irritating causes, and the avoidance of the extremes of heat and cold. Veiel cuts the hair short, and detaches the crusts with poultices, then applies an ointment composed of two parts of tar and one part sapo viridis, and thus facilitates the extraction of the hairs. After the completion of the epilation, he applies acetic acid. This is followed by a crust which falls off in three or four days. These operations are to be repeated, completing the treatment with a sulphur ointment for four weeks longer. The shaving should be continued four months to prevent a relapse of the disease. Stewart recommends potash nitrate dissolved in a large quantity of water, bathing the parts several times a day. He states that he has accomplished rapid cures. Having observed that simple sycosis frequently co-exists with alcoholism and arthritism, Gamberini resorted, with benefit, to the internal us of alkalies, and the external use of ointments, at first with a base of potassa carbonate, and then of flowers of sulphur, always premising epilation. In accord with Fox, he had seen advantage from the internal use of Donovan's solution, when the sycosis proceeded from herpetism or was connected with syphilis.

Tumors of the Abdomen.—Dr. Jacobi (*New York Medical Journal*) cites the case of a four-year-old boy whose abdomen had begun to enlarge last September. At the time of presentation there was considerable tympanitis. Besides this condition, a rather large and firm tumor could be felt in the right hypogastric region which was scarcely, if at all, movable. Several smaller nodules could be made out in the neighborhood of the large tumor. Examination per rectum gave a negative result. The functions of the urinary apparatus and of the bowels were normal. There was an area of tympanitic percussion sound between the tumor and the liver, proving that there was no connection between them. There was no history of inflammation of the peritonæum, and therefore the diagnosis of perityphlitic exudation could be excluded. It was probably a case of multiple lympho-sarcoma. Dr. Gerster, referring to the difficulty of diagnosis in cases of intra-abdominal tumors, mentioned the case of a woman who had a swelling in the abdominal cavity which an expert diagnostician thought was a sarcoma of the mesentery. When

Dr. Gerster examined the patient he found the large intestine full of scybala, which it took weeks to remove. When this had been accomplished the tumor had disappeared. Dr. Jacobi remarked that the boy presented had never suffered from constipation, and that therefore there could be no suspicion of an accumulation of fæces. It should, however, be remembered that diarrhœa results from constipation, and that popular evidence on this point is therefore very fallacious.

Vaccinia and Variola.—Dr. Voigt (*British Medical Journal*) concludes, from the results of careful experiments: 1. It is possible to create vaccine by the inoculation of the calf with lymph from the pustules of human beings the subjects of smallpox, but success must not be expected in every case. 2. The energy of variola-vaccine obtained in this way is such that it is not fit for the purpose of vaccinating human beings until it has been several times transmitted from calf to calf, or from ox to ox, and its intensity has been thus diminished. 3. In the first year this new lymph has a greater protective power than animal lymph of older stocks. 4. Vaccinia and variola are derived originally from the same contagium, and give to those affected by them an immunity one against the other. 5. The duration of this immunity depends on the intensity of the pathological process. 6. After the lapse of twelve years, persons who have been attacked with smallpox show the same susceptibility to vaccination as those who have been vaccinated at an equally remote period; consequently, children of twelve years of age, vaccinated in infancy, present a moderately favorable soil for the poison of smallpox. 7. Therefore, revaccination of all children at or even after the age of twelve is highly to be recommended. 8. Animal lymph, originally very active, diminishes in efficacy when transmitted from calf to calf sooner than humanized lymph transmitted from arm to arm. On the whole, that is, after a long time, humanized lymph gives better results both in man and beast; whence it follows that animal lymph from old stocks give less success than retro-vaccine of the first generation. 9. Carefully generated, and in well ventilated and regulated stalls, variola-vaccine is the most energetic of all, not only when taken direct from the calf, but especially in humanized form.

Bulimia an Element of Pædiatric Prognosis. — Dr. E. B. Hadra (*American Journal of Obstetrics*) calls attention to an aberration of appetite as an element of prognosis in children's diseases. He says: In exhaustive diseases, such as diarrhœa, typhoid fever, and others, after having for days persistently refused nourishment, the child suddenly swallows with avidity whatever is offered, food or medicine indiscriminately. Even quinine will be taken as readily as sugar. Such an occurrence, in his experience, frequently warrants an unfavorable prognosis. An explanation of this sudden change may, perhaps, be found in the cessation of cerebral function, through the want of nutri-

tion or of stimulation. Combined with this behavior is often found the Chyene-Stokes breathing, and this coincidence goes far to support the above explanation, as this respiratory disorder has been traced also to the want of stimulation of the respiratory centres.

Zinc Oleate.—Dr. Stelwagen (*Medical and Surgical Reporter*) says that oleate of zinc is a dry, white, pulverulent, impalpable powder of a soapy touch, resembling powdered soapstone ; if pure, it should make a clear solution with oils, lard, etc., over a water-bath. It may be used either as a dusting powder or as an ointment. An ointment of one or two drachms to the ounce of cosmoline or any fatty base is most commonly used. Sometimes the oleate made up in ointment form with oleic acid seems to be more efficacious. A very good way of prescribing it is as follows : ℞. Zinci oleatis ; acidi oleici, aa ʒ j. ; petrolati ; cerati simplicis, aa ʒ iij. Ft. ugt. To a great extent this oleate replaces the oxide of zinc, and may be ordered whenever that substance is indicated. Acute vesicular eczema may be successfully treated with the application of black wash and the subsequent application of an ointment of oleate of zinc ; the wash is to be applied with a sponge or soft rag for several minutes two or three times daily, after each application has dried, a small quantity of the ointment being gently rubbed over. In some instances, the disease seems to be more favorably influenced by the oleate employed as a dusting powder. When such is indicated, the following will prove an eligible formula : ℞. Pulv. zinci oleatis ; talci veneti, aa ʒ iij.; amyli, ʒ ij. M. This is to be dusted over the parts several times daily. The same plan of treatment is frequently of advantage in all weeping eczemas. In intertrigo, a dusting powder, such as given above, is very comforting. This oleate makes a harmless toilet powder, and combined with talc and calamine, as in the formula below, will make an excellent powder for such purpose : ℞. Calaminæ præparatæ, ʒ ij. ; talci veneti ; zinci oleatis, aa ʒ vij. ; olei rosæ, q. s. M. S.—Toilet powder. This last may also be employed as a dusting powder in moist eczema and similar inflammations.

Fatal Cases of Chorea.—Dr. J. Rudisch cites (*New York Medical Journal*) three cases of chorea, with fatal termination, observed at Mount Sinai Hospital. The first was that of a nineteen-year-old boy, admitted to the hospital eight years ago. The symptoms were slight at the beginning, but in spite of active treatment with arsenic, they increased in severity. The patient's temperature rose to 104°, and even 105° F. Chloral hydrate and other hypnotics were employed in order to stop the jactitations and to induce sleep. Dr. Adler made a post-mortem examination, and found the vessels of the pia mater congested, punctiform hæmorrhages in the gray substance, and œdema of the brain. The second case, that of a fifteen-year-old girl, was similar in its course to the first. The third case was that of a girl of the same age, who had

been in the institution twice. The first time she was under the care of Dr. Heineman, who examined her heart, but could not detect anything abnormal. When admitted for the second time, she came under the care of Dr. Rudisch, who, upon examination of her heart, heard a systolic murmur, but found no enlargement of the organ. Ether, hypodermic injections of morphine, and large doses of potassium bromide were needed to control the violent jactitations. Two days before death the temperature rose to 101°. On the night before the fatal issue one-eighth of a grain of hyoscyamine had to be given subcutaneously in order to produce sleep. At the autopsy made by Dr. Heineman, the pia mater was found to be congested, the cortical substance of the brain was studded with minute hæmorrhages, and there was stenosis and insufficiency of the mitral valve. Dr. A. Jacobi said that the changes in the brain were evidently of a secondary nature, produced by the chorea, and should not be looked upon as the cause of the disease. Dr. Rudisch said that there had been no positive history of rheumatism in any of the cases reported, but no value could be attached to this circumstance, because rheumatism in children was overlooked as a rule, or confounded with "growing pains."

The question naturally arises, was the termination not due to treatment? chloral hydrate produces bad effects in cardiac disease, and the dose of hyoscyamine was very unnatural.

"An Obstetrical Amputation."—Dr. W. T. Taylor (*Medical Bulletin*) reports the following case under the above title: The primipara had been in labor during the day, and an old doctor (fifty years in practice) was called, who when he arrived found a hand presenting at the vulva, which he did not know what to do with. In his efforts to deliver the child, he had actually pulled its arm off from the elbow. To assist him in his dilemma he sent for his grandson, and they had endeavored to apply the forceps over the child's shoulder. Being frustrated in this attempt, they sent for a "professor" to help them out of their trouble, but he did not come. They then called upon a surgeon, but he refused, as not being engaged in midwifery practice. Being unsuccessful in obtaining help down town, they concluded to seek assistance a little nearer home, when Dr. Taylor's friend was sent for, who, not wanting the responsibility of the case, came for him, telling Dr. T. of the torn arm, which he had found under the foot of the bed. On arriving at the house, Dr. T. had the old doctor and his relative summoned before the husband of the patient, to make their statement of the case up to the time when Dr. T.'s friend was called, so as to exonerate him from any connection with the torn arm. This was done with the additional remark by the grandfather that the arm came off very easily, and if anything wrong had been done he was responsible for it. On making an examination, Dr. Taylor found the stump of an arm presenting, and the head lying in the right iliac region. He easily introduced his hand, and as the head was small, soon brought it down to a vertex presentation; a

loop of the umbilical cord accompanied it, but, as the child was dead, he left the case to nature, for it would soon be born without any further trouble, which occurred about an hour after his departure, greatly to the surprise of the old doctor, who had told the family that the patient could not be delivered without the forceps.

Accidental Hypnotism and Ophthalmological Operations.—Dr. L. Connor (*Detroit Lancet*) cites the following case of accidental hypnotism, which proved of value in an operation. The patient had had a corneal abscess, which he had for some time treated himself. He had a morbid fear of anything like an operation. He had a pterygium on one eye, which Dr. Connor advised him to have removed, but he refused to have any operation made on his eye. One day Dr. Conner asked him if he was ready to have that pterygium taken off. He did not at once declare that he would not have it done, and to Dr. Conner's surprise promised to come that afternoon. He kept the appointment, followed the doctor's directions without the least hesitancy, went through the operation without the use of an anæsthetic, behaving admirably under it; but when it was finished seemed quite incredulous as to his having submitted to it, and to this day he cannot understand how he could ever have given his consent, and seems to have no recollection of the circumstances.

Surgical Uses of Collodion.—Mr. Sampson Gamgee (*Birmingham Medical Review*) mentions some uses of this therapeutic agent, which he thinks is not in general sufficiently appreciated or utilized. He remarks that, being composed of ether, gun-cotton and spirit, collodion is a powerful anti-putrescent; and, by ready evaporation and contraction, it exercises the dual antiphlogistic power of refrigeration and compression. In acute orchitis he knows no plan of treatment so simple, rapid and satisfactory, as coating the cord and scrotum with layers of collodion, by the aid of a camel-hair brush previously dipped into it. The sensation is momentarily sharp, the shrinkage rapid, and so is the subsidence of the inflammatory process. To swollen parts which cannot well be bandaged, collodion is especially applicable for the compression attending its contraction. The author was consulted in the case of a good-looking boy considerably disfigured by a red and swollen nose, which became very pale, and visibly contracted just after being painted with successive layers of collodion. The application was repeated three times in the succeeding fortnight, with the effect of producing shrinkage of the organ to its natural size and color. When the nasal bones are fractured, Mr. Gamgee recommends as a very effective mould for keeping them immovable, after adjusting them with the fingers, the following: Place over the nose a thin layer of absorbent cotton soaked in collodion; as it dries, another layer of cotton and more collodion, taking care that the application extends sufficiently on each side to give

buttress-like support. The patient compares the feeling to the application of a firm bandage on the nose, and the bones consolidate effectively under the shield, which may be renewed as it cracks and peels off. In the dressing of fresh wounds, the author speaks highly of the same. A man had suffered for ten days from a wound of the shin inflicted by a carriage-step. Water dressing had been applied continuously, and the agent to be applied after thoroughly drying the surface. Its effect is also good when applied in other than fresh wounds, as in a case cited where surface of the sore had suppurated, and its edges for some distance around were red and tender. The limb was raised to empty it of blood, dried with an absorbent, and painted with collodion, then bandaged, and cicatrization was perfect in four days, the patient having sustained no interruption of his use of the leg.

Asylum Management.—Dr. S. V. Clevenger, of the Cook County Hospital for Insane (*Medical Journal and Examiner*, March 1884), says: The visiting physician system, as formerly organized, has proved valueless. The State should employ well recognized skilled specialists, in addition to the regular resident physicians. By recognition is meant repute among reputable physicians. What has the specialist accomplished? what does he know? should be the questions of fitness, and the superintendent of the asylum should be untrammeled in his selection and dismissal of these specialists. The same objections to having business interferences with the superintendent, apply with equal force to his contact with coadjutors. The resident staff for a 500 population asylum should consist of medical superintendent, three assistant physicians, one pathologist, one female physician as gynæcologist, one clinical clerk. A consulting staff to visit the patients weekly, or as suggested by the superintendent, to consist of one specialist in skin diseases, one eye and ear physician, one surgeon. Internes could be selected from medical schools among those wishing to fit themselves in pyschiatry, and the clinical clerk is in Europe selected on that basis. There need be no fear of increased expense in such an arrangement, for the consulting staff would serve for the honor of the positions, and internes receive no salaries from any hospital fund. The additional cost for board of the extra medical men could be afforded for ten years by one year's curtailment of unnecessary building details. Millions of dollars are expended in unwise architecture, absolutely lost by the necessity for being undone in time. At Danvers, Massachusetts, a palace asylum was undergoing construction, while the insane of the State awaiting its completion starved and were frozen in dungeons of almshouses, and were without any medical attendance. This was before Governor Butler's day. It is evident from such instances that mere desire for display was at the bottom of the erection of a grand asylum, and that no question of benefiting the prospective inmates by medical or any other treatment entered into the intentions of its founders. Can economy be said to have justified this condition of things?

ORIGINAL TRANSLATIONS.

INFANTILE NODULAR RHEUMATISM: ITS ETIOLOGY AND ITS TREATMENT. Hopital des Enfants-Malades (service de M. Descroizèlles). Translated from *L'Union Médicale* of Dec. 8th, 1883, by H. McS. GAMBLE, M.D., Moorefield, West Virginia.

CHRONIC PROGRESSIVE RHEUMATISM OF CHILDREN. AS FREQUENT IN BOYS AS IN GIRLS. ETIOLOGICAL INFLUENCES. HEREDITY, ETC.

Bed No. 32 of Ward Saint Ferdinand has been occupied for several weeks by a boy eight years and a half old, the subject of a chronic affection as rare in hospital establishments set apart for the use of children as it is relatively frequent in the asylums of old men and the incurable. What, in fact, especially attracts attention, even in a superficial examination of this patient, is the alteration and the functional articular disturbance of the hands, of the wrists and of the elbows, in the upper extremities; of the toes, of the ankle and of the knee, in the lower extremities. These symmetrical, deforming and poly-articular arthropathics are well defined, very apparent, and, at first sight, most striking.

At this moment, although the disease has for a long time been domiciled in these numerous joints, the skin which covers them possesses a normal color and temperature. This patient has no fever, but he is pale, and his general condition one of suffering. Even within a recent time this was not the case, and M. Descroizèlles was the witness of a painful paroxysm, the subacute onset of which he actively combatted with salicylate of soda. There is wanting, it is true, information as to the hereditary antecedents of this child; but we know that as an orphan he has been the victim of persistent privations, and deprived of hygienic care. Besides, upon the bones of the thoracic walls, upon those of the leg and arm, there exist rachitic incurvations; finally, not long ago, he was attacked with a scrofulous ophthalmia. In fact, in default of the confessions of the patient and of the declarations of his nurses, these commemorative indices reveal clearly that the ground of evolution of these arthropathics is that of a general debility acquired or congenital.

Compelled to keep his bed at the moment of his admission, under the charge of M. Descroizèlles, he was suffering with pain and stiffness in the joints. Since then, if the pains and the articular disorders have been ameliorated, the deviations, the deformities, the functional troubles, the motility, persist none the less; so that to-day these arthropathics still possess their clinical aspects of the first day.

These deviations are as follows: With the exception of the thumb, the segments of which preserve their direction, the fingers have taken the form of a Z. Combined with the deviations of the metacarpus and of the carpus, this attitude gives the appearance of a kind of paw to the two hands, the cubital border of which has an inward inclination, and the palmar surface a slight flexion upon the forearm. The wrists and the elbows are swollen, and their articulations seem to be grating. In the lower limbs are observed deviations as

manifest, although less pronounced in the different intermedial segments of the articulations of the foot, of the ankle, and of the knee; the great toe has lost its form and its direction.

But the physical aspect of the diseased regions is not only modified by these deviations; they are also the seat of deformities of the contiguous osseous extremities. These embossments, hard and resistant to pressure, are not accompanied by any redness of the skin. There are multi-articular knots apparent especially upon the hand and foot, that is to say upon the small articulations, bilateral moreover, and clearly symmetrical upon each homologous segment of the upper or lower extremities.

There exists are traction of the peri-articular fibrous tissues and of the aponeuroses, lesions which, with the osseous deformities, contribute to produce the deviations and the disorders of motility. Whence those grating sounds which accompany movements when provoked; whence the functional disorders, the difficulty in walking, for example, or of prehension? When the little patient wishes to change his position, he lifts with difficulty the lower members. There is a great stiffness in the knees, the hips and the ankles. Being unable either to flex or extend these articulations, according to the expression of Trousseau, he walks like a duck. If he attempts to carry his hand towards his mouth, he experiences the same difficulty in moving the elbow or the wrist. Finally, another cause of functional impoetnce, and an evidence of the relatively ancient origin of the disease, the muscles have lost their volume and their contractility.

To resume, the following is the actual clinical description of this disease: Chronic, multi-articular, nodular and symmetrical arthritis, with progressive evolutions and subacute paroxysmal exacerbations existing in a boy in the second period of infancy, with all the attributes of constitutional debility acquired or congenital. These symptomatic conditions, the age excepted, are indeed those of *chronic, progressive articular rheumatism*, of adults or of old men; that is to say of the *nodosities of the joints* of Haygarth, of the *rheumatoid arthritis* of Garrod, better known, better designated, and above all carefully studied, by the French clinicians under the name of *nodose rheumatism*.

If, since Sydenham, Musgrave, Landré-Beauvais and Haygarth, the medical literature of this affection, in individuals advanced in age, has been enriched by the works of Fuller, of Garrod, of Trastour, of Lasègue, and above all of M. Charcot, to mention only a few names, it is, per-contra, very poor in clinical documents upon nodular infantile rheumatism. So, in spite of patient bibliographic researches, M. Moncorvo (de Rio-de-Janeiro) and M. Maurice (de Bordeaux), the learned translator of the monograph of this esteemed Brazilian physician, have been able to collect only nine cases in the periodical publications anterior to 1877. Moreover, the authors of classical works upon the diseases of children, Henri Roger, Barrier, Rillet and Barthez d'Espine and Picot; West, Fleetwood Churchill, Galigo, Vogel, Steiner, Pepper and Ellis, do not dwell upon it. M. Descroizèlles, one of the first, has just opened a special chapter upon it in his very recent, very complete and very practical work upon infantile pathology and clinique.

In 1877, M. Dally and M. Blache each reported a case to the Therapeutical

Society, so that by adding them to the preceding cases and to that of the patient in Ward Saint Ferdinand, we obtain a total of eleven cases more or less reported in detail. It is then wrongfully that—before the oral testimony of M. Bouchat, who, according to M. Moncorvo, had, during his long career, observed half a dozen cases, before, also, the declaration of M. Cornil in his annotations to Niemeyer's book—is assigned to childhood an absolute immunity in regard to chronic rheumatism. However exceptional this latter may be in regard to the frequency of nodular arthritis at an advanced time of life, nothing in the general history of rheumatism would authorize casting a doubt upon it in the little patient of Ward Saint Ferdinand in the presence of the symptoms above mentioned.

It is upon the arguments borrowed from etiology, from pathogeny and from symptomatology that are based definitively the grounds of this diagnosis.

Will any one offer as an objection, from an *etiological point of view*, the tender age of the patient? Be it so. What is observed in comparing the eleven cases mentioned above, in patients less than sixteen years of age? Three times the affection has made its appearance at the age of two years (Moncorvo, Smith, Blache), twice at sixteen (Charcot, Vulpian), twice at fifteen (Durand-Fardel), twice at ten (Martel, Charcot). Remains, then, the patient actually under treatment in Ward Saint Ferdinand, and that of which M. Laborde communicated the history to the Society of Biology. The latter is eight years old, and the former also; but his disease dated from four years of age.

These two last cases are not without analogy, since the polyarthritis deformans of the patient of Ward Saint Ferdinand is anterior by long months to his admission during the service of M. Descroizèlles. In this whole series the morbid manifestations were then observed seven times between the second and the tenth year, and four times only at the age of fifteen or sixteen years.

In regard to *sex*, Cruveilhier has designated the nodular rheumatism of adults under the name of the *gout of women*. As far as concerns childhood, this law deserves revision, in spite of the statistics of nine patients, of whom M. Moncorvo speaks, and of whom six were girls. To these figures may be opposed others, by adding the present case to those which have been reported by different authors, we attain, then, the very different proportion of six cases in boys in a series of twelve observations of infantile nodular rheumatism. It is, then, wrong to attempt to draw any diagnostic argument from considerations of sex.

Sex is an etiological element of mediocre value; is it so in regard to the other pathogenic factors? Here, in the absence of information relating to the past, and standing upon the ground of facts, it is necessary to place heredity out of consideration, whilst taking account of its ever-probable influence. Here less than elsewhere, the patient being a child, one will not invoke to a certainty the chloro-anæmic state in order to occasionally rehabilitate the *arthritis chlorosa* of Musgrave. On the other hand, the trophic disorders of which rachitis is a revealing indication, scrofula, general debility, cold, defective hygiene and alimentation, are a common ground which has been favorable to the development of this arthritis deformans. The nodular rheumatism of this little patient is then really the *gout of poverty* and the *disease of the poor* of Adams.

In his learned memoir upon rheumatism, M. E. Besnier dwells with reason upon the action of these influences to explain the preponderance of cases of nodular rheumatism in adult life among women. Is it not the same for indigent or debilitated children of both sexes? Is it not also the ground upon which, according to the testimony of the preceding statistics, the nodular rheumatism of children is likewise more frequent in boys than in young girls?

Whence the *practical* importance, after the final repair of the articular lesions or of the functional disorders, of a careful differential diagnosis of infantile nodular arthritis from the diathesic and tabetic arthropathics, or from the deformities of the joints in progressive muscular atrophy.

Among the first, the gouty arthropathics are, as an element, easily put out of consideration, the gout not being a disease of infancy. Besides, this is no longer the time when the gouty origin of nodular rheumatism was discussed; justice has been done, and the separation pronounced between these arthropathics of different natures. Here *indolent asthenic gout* has given place legitimately to *arthritis rheumatismo superveniens.* It is not always the same in the discrimination from the scrofulous arthropathics, when only the general condition is considered. Many of these patients bear strumous cicatrices or possess scrofulous antecedents; many also succumb to phthisis or are born of phthisical parents. Nevertheless, hesitation would still be unallowable in presence of the seat and of the physical characters of these symmetrical arthrites located upon the entirety of the small articulations, and only upon a few of the large joints. And, on the other hand, has not strumous arthritis, almost constantly mono-articular, always more or less tendency to suppuration?

Is it useful to distinguish them from *tabitic arthropathics* or *from the deformities of the joints from muscular atrophy?* No, certainly not. The first are so rare at this time of life, according to the remark of M. Descroizèlles, that we ought not to take ataxia into consideration in a question of infantile pathology. As to the second, their physiognomy and their seat are quite different. The muscular atrophy of sclerosis of the anterior horns differs in its generalization from the peri-articular muscular dystrophies belonging to old nodular rheumatismal arthritis. Sometimes even, with some degree of reason, we have to distinguish them from the *post-traumatic arthropathics* consecutive to wounds of the nerves. Here such is not the case; to enounce the question is to resolve it.

If the patient was further advanced in age, it would be necessary, in order to complete this discussion, to establish the *diagnosis of the form of the progressive articular rheumatism;* that is to say, to differentiate nodular rheumatism from partial chronic rheumatism, or from chronic rheumatism of the phalanges. Of what use to dwell upon it? Although united by the bonds of intimate relationship, *senile arthritis* and the *nodi digitorum* of Heberden are the appanage of old men, and more rarely of adults; whilst nodular rheumatism alone is up to the present time common to them with the child.

The diagnosis of infantile nodular rheumatism is not, then, absolutely difficult. It is not the same as to the determination of its prognosis. In the majority of cases, as with the patient of Ward Saint Ferdinand, the arthropathics are multi-articular, and assume the *chronic form at once.* In spite of this so-aggressive

march, the destruction of the cartilages and the eburnation of the osseous extremities are rarely complete; in these patients the functional impotence results from fibrous and not from osseous ankylosis, a fact which must be remembered in order to attenuate the severity of the prognosis. On the other hand, once only, in the patient of M. Martel, has the complication of pericarditis been observed, and in none of the cases published has death been the termination of the disease. From this point of view, every final estimate upon the issue of the disease would then be premature in the absence of more numerous observations.

Whether the affection remains stationary or ends in recovery, the state of general debility, the diathesic conditions of the patient, the hygienic surroundings in which he lives, are pathogenic factors upon which M. Decroizèlles advises, laying great stress in the prognosis as well as in the therapeutic measures. Experience proves it, since, under the influence of rest and of a suitable hygiene, the morbid symptoms, of the boy in ward Saint Ferdinand have notably amended. It is then only in observing simultaneously these conditions that we have seen faradic and galvanic electricity, massage, hydrotherapy produce cures, salicylate of soda suppress the acute paroxysms, and alteratives such as iodide provoke the resolution of the local lesions. The morbid index of a premature organic decadence, this nodular infantile rheumatism is then amenable to the most poerwful of the general alteratives; hygiene, associated with the therapeutical employment of local modifiers. C. Eloy.

ORIGINAL ABSTRACTS.

(BY J. G. KIERNAN, M.D., CHICAGO, ILL.)

Turpentine in Diphtheria.—Stoke's lectures on fever claimed such good results from turpentine in typhoid fever that it is scarcely astonishing to find that Dr. Satlow (*Jahrb. für Kinderh.*, b. xx.) has had excellent results from its internal administration in diphtheria. Fresh distilled turpentine was given to adults in tablespoonful doses twice daily, and children under fifteen were given teaspoonful doses, followed by copious draughts of warm milk. When vomiting was produced, 15 minims sulphuric ether were given; small doses were useless.

Costal Resection for Empyema.—Féréol (*Medical Press*) reports the case of a patient completely healed of a pleural fistula by Estlander's operation. A young man of 22, eighteen months ago, was admitted into the Lariboisière Hospital for pleurisy with extensive effusion. Thoracentesis gave temporary relief, but the pleural sac refilled after some time, pushing the heart greatly to the right, but at first the patient refused all operative interference. However, the dyspnœa became so distressing that he yielded, and nearly two quarts of laudable pus was drawn off by the aspirator. The amelioration that followed was but of short duration, and the operation for empyema was tried, but with no better result. As a last resource, resection of the ribs was decided upon, and the consequences were highly satisfactory. From the fourth up to and in-

cluding the eighth rib, were portions removed, and now—six weeks after—the fistula has entirely closed, but the affected side is diminished in circumference by three inches. This is the practice insisted upon by Warren Stone.

Trachelorrhaphy during Pregnancy.—The *Weekly Medical Review* reports a case which recently happened in Chicago. A woman was operated on for cervix laceration, a disease, by the way, which has been frightfully prevalent for the past few years. There were four gynæcologists present, and the operation was a brilliant success. Unfortunately, however, the woman gave birth, within the twenty-four hours following, to a seven-months' fœtus, and in twelve hours more she was a corpse. A singular circumstance connected with the affair, and going to show the perversity of some women, this woman had been operated on by the same surgeon, and for the same disease, on a previous occasion, and, although that operation brought away a three-months' fœtus, she made a good recovery. The *Medical Age* says: "The lesson from this would seem to be that while trachelorraphy is a safe procedure when the woman is only three months gone, there is danger when she has gone on to seven months."

Jaborandi in Congestive Chills.—Dr. Thomas Keefe, of Deming, New Mexico, states (*Medical Age*) that he has employed jaborandi with entire success in quite a number of cases of congestive chills. His *modus operandi* is to inject subcutaneously about 29 ♏ of the fluid extract of jaborandi, which is to be repeated in 20 minutes later if necessary (which is seldom the case). In about 15 to 20 minutes profuse prespiration sets in, the chill is broken and the patient rapidly recovers.

Application of Forceps to the Breech.—Dr. Truzzi (*Gazetta Medica Italiana Lomborda*) concludes: 1st. In wedging of the breech in upper or middle part of the pelvic excavation, if rapid extraction be necessary, in lieu of traction on the fold of the groin with the finger or the crochet, the forceps are preferable. Traction in the groin admits of a better adjustment, and exercises less force than the forceps, but these advantages do not make up for the accidents which so frequently result: fracture of the femur, and laceration of the soft parts of Scarpa's triangle. 2d. Ollivier's proposition to apply the forceps on the thighs and not on the foetal pelvis is seductive, but not practical. In the sacro-iliac posterior position, the hold being upon the thighs, the posterior borders of the blades always compress the abdominal walls of the fœtus, and as the extremity of the forceps should (Ollivier) extend almost to the knees, compression might injure the parenchyma hepatica. The forceps are liable to slip gradually, and, after traction, lose their hold and produce antero-posterior chafing. 3d. It is much surer and less dangerous to apply the forceps to the sides of the fœtal pelvis. The iliac bones are then quite elastic; are protected by soft parts, which form true cushions, and can sustain considerable pressure before appreciable lesions can be produced upon the fœtal pelvis. In careful dissections made after these experiments, no fracture of the iliac bones, or lesions of the sacro-iliac or pubic articulations were found. 4th. To obtain a firm grasp, the blades of the forceps must reach the level of the crest of the ilium, and should be brought together so as to make these crests the points of resistance during traction, and to give the hips of the fœtus a convexity of form, thus filling in the space and preventing injury to the abdominal viscera. This mode of application of the forceps is absolutely without danger.. The Porro forceps, applied to the sides of the pelvis of the fœtus, give an excellent hold, especially in anterior presentations. In posterior presentations, if the forceps slip, it is better to rotate the sacrum anteriorly, and then reapply them. It is well in the intervals of traction to keep up a certain degree of compression of the handles, since the iliac bones tend,

by their elasticity, to return to the previous shape, and, pushing aside the blades, cause them to lose their hold.

Iodine in Amenorrhœa.—Chéron (*Révue de Thérapeutique*) says that amenorrhœa and dysmenorrhœa are not infrequently complicated by lumbo-abdominal neuralgia. Tincture of iodine freely applied every two or three days over the region of the kidneys stimulates the vasomotor innervation centres of the lumbar portion of the cord and sympathetic, and tends to relieve the congestion of the genital apparatus, which retards or suppresses the normal uterine flow. Tincture of iodine alone will suffice when the lumbo-abdominal neuralgia is not internal. If it be internal, Chéron employs the morphinated tincture of iodine: Tincture of iodine, 30 parts: sulphate of morphia, 1 part. Used internally, iodine is one of the surest emmenagogues, more particularly in cases of corpulent persons, in whom the lymphatic type is predominant. Iodine in the following formula may be employed with good effect, whatever the cause of the menstrual trouble: Tincture of iodine, 1½ parts; tincture of aconite, 2 parts; syrup of tolu, 400 parts. S. Dose, one, two or three teaspoonfuls before each meal, or one teaspoonful for three days, and three for as long a time as may be desired. Skene (*American Medical Digest*) says that his experience confirms the views of Chéron in regard to the use of iodine in amenorrhœa of corpulent, lymphatic women. Presumably it acts by stimulating the mucous membrane to higher functional activity. Women of this temperament are most liable to amenorrhœa, hence the value of the remedy.

Lightning as a Cause of Cataract.—Dr. C. S. Turnbull (*Medical and Surgical Reporter*) says: Leber reports the case of a sea captain of thirty-one, who had been struck by lightning, burning the skin of the left side of his body down to the thigh, and producing total hemiparesis of that side. After these affections had been cured, cataract developed in both eyes in the course of a few months, in the left more than in the right, while there was also partial atrophy of the optic nerve, mydriasis, paralysis of accommodation of that eye. The result of the operation was comparatively good. Five similar cases of cataract were found in searching through the bibliography, eight cases of amaurosis in pre-ophthalmoscopic times, and periodic amaurosis or amblyopia respectively in four cases, among them the interesting one of Reich, of rupture of the choroid. Generally both eyes are affected, rarely (Sæmisch) only one. The electric discharge is the cause of all these affections, no matter whether lightning strikes the body itself or only passes close to it. The direct physical, chemical, catalytic action of the electric discharge upon the lens is the cause of the cataract.

Enlarged Fœtal Spleen Causes Dystocia.—Dr. Webber (*Medical Press and Circular*) has had under observation the following case: A twenty-year-old well-formed primipara was attended in labor by a midwife. Labor had continued for several hours, when Dr. Webber was called, owing to the cessation of all pains after the delivery of the head. The child was dead, but he corrected the position with facility, bringing the shoulders down, and hooked down the arms with his fingers. In this position traction had been made for two hours without any advance, when the head became detached. The woman was placed under chloroform, podalic version performed, but without effecting delivery. The child's abdomen, the distension of which was the obstacle to delivery, was opened by a guarded scalpel. After the opening was made, an enormous and hard tumor was detected, which required to be broken up before it could be removed. Delivery was easily accomplished. It was discovered

that the tumor was an enormously enlarged spleen. The woman made a complete, though slow, recovery.

Quinine Oleate in Scalp Disease.—Dr. Stelwagon (*Medical and Surgical Reporter*, March 15, 1884) says that quinine oleate is in color brownish, of plastic consistence, and of a sweet and oily odor. So far, the use of this oleate has been limited to inunction to impress the system at large. For this purpose, it should be mixed with olive oil, lard, or oleic acid. In the past year another use has suggested itself. As is well known, lotions containing quinine have been employed for several years past for the treatment of premature baldness, seborrhœa, etc. Unquestionably the oleate is better adapted for this purpose than any lotion of quinine heretofore employed, and in the few cases in which it has been tried, has seemed to act favorably; further experience in its use for these diseases may corroborate the favorable impression already formed. The ointment which he has employed in the few cases referred to is the following: ℞. Quiniæ oleatis, ʒ ss.; adipis benzoat.; petrolati, aa ℥ ss. Ft. ugt. A small quantity of this ointment is to be rubbed in every evening, or less frequently, as may seem indicated.

Hallucinations, Illusions and Delusions.—Dr. R. Bartholow (*Med. Bulletin*, February, 1884) gives the following definitions: "A hallucination is a disordered mental conception. It is something in the mind. The mind conceives that to exist which has no existence. If I, looking at the table on which there is nothing, fancy that a man is sitting on the table, that is a hallucination. If, however, there be a chair on the table, and I fancy that the chair is a man, that is an illusion; that is the perversion of an object which exists. A hallucination is the mental conception of that which has no existence, while an illusion is the perversion of an an object which does exist. What is the distinction between hallucination, illusion and delusion? A hallucination may also be a delusion, provided the individual is unable to see that he is the subject of a hallucination. In other words, if the hallucination is real to him, and his reason cannot correct it, or your reasoning cannot convince him, then he is deluded, or that is a delusion. Again, if the perversion of an external object, which we call an illusion, is real to the individual, and he cannot be convinced of the error of his perception, then he is the subject of a delusion." These definitions, which purport to be for medico-legal purposes, are much too prolix, and convey erroneous ideas. All delusions do not originate in hallucinations.

Moral Insanity.—Dr. C. H. Hughes (*Alienist and Neurologist*, April, 1884) says that moral insanity is insanity of conduct, feeling or impulse, or all combined, without such appreciable intellectual derangement that it would be recognized as insanity without the display of morbid feeling, impulse or conduct. It may, as Esquirol thought, include *délire partiel*, and undoubtedly does in many cases, and still be entitled to be designated moral insanity, because of the predominance and overshadowing and overmastering character of the aberration of the moral faculties over the faculties of the understanding. It expresses itself rather in action than in speech, though it may utter itself in both, but unlike pure intellectual mania, which is often only recognized in the patient's language, it never expresses itself alone in written or spoken words. Before the time of Pinel or Prichard, morbid changes in the appetites, propensities and feelings were recognized by medical nosologists. The morosities or morbipathetici of the older nosologists embraced them. Rush, in this country, also a little later, described some of them.

SELECTIONS.

Three Cases of Empyema, Showing the Advantage of Incision and Drainage. By V. M. Reichard, M.D., Fair Play, Maryland.

The accompanying cases occurred in the practice of my friend and former preceptor, J. McPherson Scott, M.D., of Hagerstown, Maryland, by whose kind permission I am allowed to report them. The following abstracts are taken from his case-book:

"Case I.—L. E., female, white, æt. 6 years, came under observation in May, 1880, suffering with pleurisy with effusion. Had been under the care of another physician, hence knew nothing of the earlier history. Put on quinine, iron, and cod-liver oil, with nourishing diet. In about a week began to have hectic fever, with rigors and sweats. Suspecting an empyema, passed the needle of a hypodermic syringe and drew away pus. Decided bulging of intercostal spaces, but no pointing. Next day passed a good-sized trocar between tenth and eleventh ribs posteriorly, and drew away about a pint of pus, somewhat to the relief of the child. Inserted a drainage-tube, but it became clogged, and had to take it out. The opening closed. In about a week was as bad as ever. After local anæsthesia, made an incision down into the pleural sac and let out about three pints of pus. The opening was kept patulous with a tent. The discharge continued in diminishing quantity for about two months, when it ceased entirely, and the opening was allowed to close. The child began to improve after the free incision, and now is stout and hearty.

"Case II.—B. S., male, colored, æt. 20. In June, 1881, seized with pleurisy with effusion. In about a week began to have rigors and sweats. Passed hypodermic needle and drew away pus. Next day aspirated, and nearly a gallon of offensive pus withdrawn. In about ten days the chest had refilled. Aspirated again, but, owing to defective working of the apparatus, did not succeed well; only about a quart withdrawn. Rigors and sweats continued. In a short time the effusion was so great as seriously to impede respiration. The pleural sac was now freely laid open by incision between tenth and eleventh ribs. A large amount of pus came away. A discharge kept up constantly for several months, though in slightly diminishing quantity. The case then passed from under observation for about six months. When seen again, the opening had closed; the boy was in the last stage of consumption, and died in a few days.

"Case III.—J. W., male, white, æt. 35. In 1872 was called to see him. Was suffering with an empyema. Had had a pleurisy, and an empyema necessitatis formed!! A surgeon had made an opening on lower and posterior aspect of thorax, but failed to get any pus; said it would come all right. Found him with greatly impeded respiration and suffering very much. He declined any further operative interference. Having no aspirator at hand, took a piece of rubber tubing and fitted it to a barrel syringe. Passed the tubing down into the pus cavity, and in this way drew away several pints of pus, affording great and instant relief. He was soon about again. Urged an operation, which he

declined, saying he would 'stick to the first apparatus.' A discharge, never very profuse, was constantly kept up. When there was trouble in breathing, we resorted to the syringe and tubing. In 1880 he had a hæmorrhage into the pus cavity. Was relieved by passing catheter and washing it out. The washing would relieve the discharge, but not cure it. Tubercles now began to develop in the lungs. In the spring of 1881 had another hæmorrhage into the sac. In December, 1881, died of phthisis pulmonalis."

These cases present some points for study. They show that the best chance for recovery is after free incision. Whether the case be one of suppurative pleurisy or one in which a serous effusion has become purulent, the indication is the same—free incision. The pleural sac is simply a pus cavity, and must be treated as such. In Case I. improvement began as soon as free drainage was established. The child is now robust, with very little retraction of the chest-wall. In Case II. aspiration was given a fair chance, but failed entirely. It is a fact observed by all who have had much experience with negroes that thoracic diseases are badly borne by them. Under the continued drain, tubercles developed, and he died with acute consumption, although the empyema was almost cured.

Case III. is another against aspiration. Though the pleural sac was often emptied and washed out, drainage was never fairly established, and at last the system succumbed to the purulent secretion—only, however, after the lapse of nine years. Had an incision been made through the chest wall, and this pus cavity been treated as one in any other part of the body, the result might have been different.

It is of the first importance that the incision be made into the lowest part of the sac. In some subjects it is not an easy matter to find the lowest ribs. In such cases a good plan would be to aspirate with the hypodermic syringe. Even if the needle were passed below the diaphragm, no harm would result.—*Medical Times.*

Plaster of Paris Splints in the Immediate Treatment of Fractures of the Leg.

Dr. John Croft, in the *Maryland Medical Journal*, thus concludes an able article on this subject:

"I still hold that for the immediate treatment of fracture the splints are superior to the plaster-of-Paris bandages, and for the reasons stated in my original paper, that the bandages form a thick case which it is comparatively difficult to remove. It is most desirable in the cases under consideration to put on an apparatus which, in case of accident, such as rapid, unusual swelling, pain, or misadventure in application or manipulation, can be easily taken off with the least posssible disturbance of the broken limb. To remove the complete case made by plaster-of-Paris bandages, it must be cut open, and then the limb extracted from it; another case must be built up. These steps cause the injured limb much disturbance and some pain. When the splints have to be removed for some accidental cause, the process is a very easy one. The muslin bandage is easily cut up by scissors; the splints can be removed or turned aside,

one at a time, so that the limb is not left without support. In the majority of the few instances in which this change has to be made, the same splints may be reapplied with fresh muslin bandages.

The apparatus consists of—firstly, inside and outside splints made of common house-flannel and plaster of Paris; and secondly, of muslin bandages. The splints for fractures below the knee are shaped somewhat like the old short outside splint; the footpiece is, however, wider; the splint for the inside of the leg is similar in length and width to that for the outside. The splints should be long enough to extend from above the knee to the middle of the metatarsus, and together they should be in width about one inch less than the circumference of the limb at the corresponding part. A rough guide to the shape of the splint may be found in the injured person's stocking when it is laid flat on a table. Each splint is constructed of two layers of the flannel; the outer layer carries the gypsum; the inner layer forms a dry, warm elastic lining, and protects the skin. These splints are applied by means of the muslin bandages. The bandage is put on like any other, from the toes to the knee; one thickness is enough. Two bandages of five or six yards in length are more convenient than one of twelve yards.

To Make the Splints.—1. A piece of house-flannel or an old shrunk blanket, or any suitable substitute, is selected. The pieces may be shaped by measurement, taking the circumference of the limb above and below the knee, at the biggest part of the calf just above the ankle-joint, from the front of the ankle-joint round the heel to the front again, and at the middle of the metatarsus. The flannel of each splint should be in width half an inch less than half the circumference at any of these points. The width of the two splints should be one inch less than the circumference of the limb at any corresponding part; it should be long enough to extend from above the knee to the middle of the metatarsus. Four pieces are required—two for each splint. 2. Two bandages of common muslin are prepared, each five to six yards long, and two inches and a half in width. 3. A handful or two of dry plaster is mixed with water to the consistency of thin cream. 4. The inside pieces of flannel may be laid on the table or bed, the outer surface being upwards. 5. The outside pieces are to be soaked in the plaster separately, and laid out on their respective inside pieces.

Application.—While traction is kept up, and the ends of the broken bones are maintained in apposition, the splints are to be applied and smoothed; then the bandage is to be put on. Traction is to be maintained during the hardening of the plaster. The latter takes place in about three minutes. Next, the limb should be laid on a large soft pillow, the toes directed upward, and the knee a little bent. In the application of the bandage great caution should be observed that it is not drawn tightly anywhere, and that no one turn of the bandage is tighter than another. The support is to be equal everywhere. The two splints should not meet by about half an inch, either down the front or back. The intervals are spanned by the dry porous muslin; at the sides the bandage is fixed to the splints by the plaster which oozes into it from the outer layer of flannel. If it becomes necessary next day, or later, to ease the splints or to inspect the

limb at any spot, the bandage can be slit up with scissors along the middle line in front. One or both of the splints can then be eased from the limb, and readjusted by the addition of another bandage. It is undesirable to wholly remove the splints. They are hinged together at the back by the muslin bandage which spans the interval there. The trimming of the apparatus may be done as soon as the plaster shall have hardened. Should the surgeon be short-handed with regard to assistance, he may apply the outside splint first, and lightly bandage that on ; and when that splint has nearly hardened he may put on the inside one. As the swelling subsides, and the splints become more or less loose, an additional bandage should be put on. At the end of ten days, if the patient be convalescing, the outside bandage may be gummed or a fresh gummed bandage rolled on. That apparatus will last until splints are no longer needed. At the end of a fortnight or three weeks, as the case may be, the patient may leave the hospital for his own home.

This mode of treatment is admirably adapted to oblique fractures, accompanied by displacement of the tibia, to cases of Pott's fracture, and to comminuted fractures.

Aphorisms Concerning Ligation for Arterial Hæmorrhage. By John B. Roberts, M.D., Philadelphia, Pa.

I.—In primary hæmorrhage do not ligate arteries not actually bleeding, but have the patient carefully watched. Reasons for this rule: 1. It is possible that bleeding has permanently ceased. 2. It is difficult to be sure from which arteries the bleeding came. 3. All manipulations in wounds are to be avoided unless demanded. Exceptions to this rule: 1. When a large vessel is plainly seen pulsating in the wound. 2. When the occurrence of even slight secondary hæmorrhage would be very disastrous, as in very anæmic patients. 3. When the patient must necessarily be away from surgical scrutiny.

II.—In both primary and secondary hæmorrhage the ligature should be applied, when practicable, in the wound at the point where the artery bleeds, and not above, in the continuity of the vessel. Reasons for this rule: 1. It is frequently impossible to know which artery is injured until the wound is opened. 2. Secondary hæmorrhage may occur even after such ligation in continuity from establishment of the collateral circulation. This secondary bleeding may come even from the proximal end of the cut vessel, if a branch of considerable size is given off between the wound and the point of ligation. 3. Ligation in continuity makes a second wound and adds the possible complications of this wound to the patient's original dangers. 4. Ligation in continuity remains as a reserve step, still possible, if ligation in the wound fails. Exceptions to this rule: None.

III.—If the artery is completely severed, both ends should be ligated; if it is partly divided or punctured, a ligature should be applied on each side of such wound. Reasons for this rule: The collateral circulation will probably cause secondary hæmorrhage from the distal portion of the vessel, unless double ligation is adopted. Exception to this rule: When the distal end of the artery cannot be found, pressure must be made in its neighborhood.

IV.—If a large artery is wounded near its origin, tie it below the wound, and tie the trunk from which it arises both above and below the point of origin of the branch. If a trunk is wounded near the origin of a large branch, tie the trunk with two ligatures in the ordinary manner, and apply a third ligature to the branch. Reason for this rule: The force of a large current of blood near the internal clot may lead to its displacement and cause secondary bleeding when the silk ligature causes ulceration of the external coat, or the catgut or flat ligature has been absorbed. Exception to this rule: None.

V.—When ligation of the artery in the wound is impracticable, as happens in deep wounds of the pelvis, ligation in continuity may be permitted.—*Polyclinic.*

GALLIC ACID IN HÆMORRHAGE FROM THE URINARY ORGANS. By LIONEL S. BEALE, M.B., F.R.S., Professor of Principles and Practice of Medicine, King's College; Physician to the Hospital.

OF the styptics in ordinary use gallic acid, according to my experience, is one of the most potent in relieving hæmorrhage from the urinary organs. The reputation of this remedy would, I think, soon be greater than it is if those who try it would give it in sufficiently large doses, and persevere in its use for several days before replacing it by other astringents. As gallic acid probably acts according to the strength of its solution which bathes the bleeding tissue, it is necessary to insure the introduction of a certain quantity into the blood by the frequent administration of successive doses. We must remember that gallic acid soon passes away from the blood, being carried off in the urine. It is, therefore, only by administering frequent doses that we can hope to compensate for this continual draining away of the remedy, and we must give it in quantity and often enough to more than compensate for what is removed with excrementitious matters.

In chronic bleeding from the surface of the mucous membrane of the pelvis of kidney, ureters, bladder and urethra, and from villous growths, as well as in the very obstinate hæmorrhage from large fungous tumors of the kidney and bladder, I have found gallic acid most valuable in a large number of cases, and for some years past I have been led to depend upon it more and more. In that spongy condition of the prostate, when the veins are large and the capillaries of the surface considerably dilated and forming here and there little pouches like aneurismal dilatations, hæmorrhage is often not only very obstinate, but from time to time in such excessive quantity as to blanch and weaken the patient. The remedy should be given in frequent doses, day and night, until the bleeding is very decidedly reduced in degree, when it may be ordered once in six hours, or less frequently, being again increased in frequency if the patient ceases to improve or the hæmorrhage again increases in severity.

Gallic acid seldom disagrees in any way. Some patients complain of its taste, but it is generally well borne by the stomach. It does not cause constipation, and even when the crystals are swallowed in a state of suspension in water or mucilage, no inconvenience results, and the stomach is not disturbed by their

presence. The glycerine of gallic acid is, however, the most pleasant form in which to prescribe the remedy. This contains one part of gallic acid in four. Forty minims will contain ten grains, and may be given in distilled water, peppermint, orange, or other water. But it is most essential that the patient should persist in taking the doses regularly for several days. Gallic acid is absorbed by the blood, and passes away unchanged in the urine; and it is probable that it acts directly on the parts from which the bleeding is taking place, and therefore a certain strength of solution is necessary to get the good effects, and this can only be obtained by its persistent introduction into the stomach, and so into the blood, at short intervals of time. I have given gallic acid in ten-grain doses every three hours without intermission for three weeks, no objection having been made on the patient's part. Whether much larger doses would be absorbed I doubt, but I am not aware to what extent the remedy may be pushed, nor do I know in what respect very large doses would be deleterious. On these points I should be glad to learn the experience of other practitioners who have largely employed the remedy. I have generally found that the desired effect has resulted after ten-grain doses had been kept up for three or four days, and in cases where the bleeding did not actually cease it was certainly well under control. In several of those painful cases of hæmorrhage from fungous growth, the bleeding was much lessened, and the fatal result postponed; in some of my cases I should say that death was due rather to exhaustion and weakening of the general health than to the hæmorrhage. I therefore commend this remedy in the cases of hæmorrhage to which I have referred, and I prescribe it with confidence, so that its use may be steadily continued until its beneficial action is clearly established.—*Lancet.*

Condyloma of the Rectum.—Sodomy.

Dr. W. M. Polk, in his recent clinic, presented the following case: The next patient, gentlemen, whom I shall bring before you is one with whom I shall detain you only a moment. She has ulcerations on various portions of the body, and on making an examination we find specific ulceration about the genitals. But this is not all; we find a peculiar condition of the rectum. There is complete destruction of the retentive power of the sphincter, and the anus presents a peculiar color, which is partly suggestive of hæmorrhoids and partly suggestive of syphilitic condyloma. We find, as is to be expected, that she is troubled with a constant discharge from the rectum; this is sometimes purulent, sometimes fæcal, sometimes bloody. In addition to this there has been entire cessation of menstruation during the last six months. But the point of greatest interest is that connected with the rectum. In trying to find out what is the precise cause of such trouble, we find that patients tell all kinds of stories. They attribute it to this thing, that thing, and the other thing, and this patient finally winds up by saying she had posterior rectotomy performed, and that since that time she had been afflicted with this constant flow from the rectum.

I wish you to notice these hæmorrhoids and condyloma, and the great irregularity of surface around the anus. I wish you to notice also that the operation of the posterior rectotomy was never performed; because, by putting your finger

upon the posterior margin of the rectum, along the coccyx, you will see that the tissue has never been touched by the knife. You will notice that there is no perineal body, and that there is no sphincter, although the margin of the sphincter is intact all around. Now the ulcers which you see there in the vagina are easily understood, but how about the condition of that anus? We pass our finger deeply into it and find a certain amount of ulceration of the tissues just inside the internal sphincter, but we can go more deeply, and we do not find any special evidence of constriction. All that we do find, then, is ulceration of mucous membrane, ulceration at the anus, and the formation of these tumors. It is not a very difficult matter for those of us who come in contact with this class of people, as we are obliged to do in these public institutions, to diagnose the presence of specific disease, and I wish for humanity's sake we could stop at that. It is evidently a poor devil who has given herself up to sodomy. The condition of that rectum is such as you always find present in such people, the improper use to which this poor creature has subjected herself having evidently brought all the train of symptoms which you see present here. That syphilitic infection of the anus has been direct; it has not come, as it sometimes does come, from a chancre situated at the fourchette. Examine the fourchette as carefully as you may, and you cannot find the characteristic cicatrix of the primary chancre. Coming to the rectum, however, you find all the evidences of direct infection, with destruction of the retentive power of the anus, as a consequence of the stretching to which it has been subjected during the act of unnatural coition. There is no object, gentlemen, in showing you cases of this kind, save to enable you to avoid being deceived by these people. The only redeeming trait in that woman's character to-day is, that she is ashamed to acknowledge how she came to have the condition in question. But confession is not necessary. With regard to treating such cases, well, you will have to manage with them the best you can, and as they are not fit subjects for treatment in one's private practice, you had better send them to a public institution.

Death from Ether.—A death occurred recently at the Gloucester Infirmary, of which the following were the particulars furnished at the inquest. The deceased was a laborer, aged 50, and, when admitted to the infirmary, he was suffering from a cancerous growth in the gums and throat. An operation had to be performed, and it was decided to remove beforehand some of his teeth, which were sources of irritation. He was accordingly placed under the influence of ether, and one tooth had been removed when it was noticed that his breathing was bad, and pulse failing. Artificial respiration was attempted, but proved of no avail, for the patient died in about a quarter of an hour from the first exhibition of the ether. The patient had been weak from the exhausting nature of his malady, but there was no sign of disease in the heart or lungs to contraindicate the use of ether. He had been an habitual smoker, and as a soldier had served in the Crimea and in India. The saliva which he was continually swallowing was of a poisonous nature. When he was found to be in a dangereus condition everything appears to have been done to restore animation, but the efforts unfortunately proved fruitless.

ORIGINAL CORRESPONDENCE.

To the Editor of Gaillard's Medical Journal:

15 Rue Caumartin, Paris, May, 1884.

Dear Doctor: The medical world of Paris is much disturbed at present in regard to the subject of the "illegal practice of medicine." By this term is meant the exercise of the prerogatives of the doctorate without the possession of a diploma from a French faculty, or an authorization from the Minister of Public Instruction, either of which is regarded as a qualification by the laws of France. The physicians of this country esteem all foreign schools of doubtful repute, and they are generally loath to receive medical men of other nationalities as their equals and brethren. So much pressure has consequently been brought to bear upon the Ministry, that it is now absolutely impossible for a stranger to obtain an authorization, and he is forced to secure a diploma in order to acquire the right to practice "within the limits of the Republic." Neither recognized attainment nor acknowledged standing avails aught in this regard, and no amount of influence at home or abroad counts for anything in behalf of the foreigner who seeks to gain admission into the ranks of the profession here. The door is absolutely closed and barred against every applicant who hopes to have the diplomas which he has obtained in the schools of his own country recognized and respected in France. The only possible avenue to the field of practice is the ordeal of the regular examinations of some one of the faculties of this country. Indeed, a law is now being matured the provisions of which prohibit those who already hold authorizations from styling themselves "doctors," and to compel them, after the expiration of six years, to present themselves for examination and to obtain "diplomas" or abandon the practice of medicine immediately and definitively.

I have thus gone into this matter, because Americans are constantly coming here who are entirely ignorant of the existence of restrictions to the pursuit of their vocation, or who suppose that all such impediments can be easily overcome. I have repeatedly seen gentlemen of the highest distinction, and of the most influential connections, fail utterly in the attempt to obtain the authorization to practice medicine in France, and, to my certain knowledge, a favorable response has not been given to the application of an American within the last six years. Should any one suppose that this statement, with the lesson of discouragement to be learned from it, originates in any selfish view of the situation, I would respectfully refer him to the Minister of the United States, or to any one whose position here has made him *au courant* with the facts of the case as they are at present, and have been for some time past. Until very recently it had been supposed that the "illegal practice of medicine"

necessitated the actual residence of the offending party in France, and his habitual attendance upon the sick, as a matter of business.

It has, however, come in my way to ascertain that a more extreme interpretation is now being given to the law which defines and punishes this offence. Such a construction, in fact, as interests every physician who is likely to visit this country. The authorities hold at present, that the writing of a single prescription by an unauthorized doctor, whether he be a resident or a non-resident, is a violation of the law, and renders the offending party liable to its penalties.

It certainly is the duty and the prerogative of a community and of the profession to protect themselves against incompetency and imposition in this regard, but, in my judgment, thus to establish it as a principle, that all evidence of the qualification of an applicant shall be rejected, save that furnished by the test of a technical examination, conducted by a hostile faculty in an alien tongue, is to commit a great injustice, and to warrant the belief that some other than a disinterested motive prompts to the present violent crusade against the "illegal practitioners domiciled in France."

It it a significant fact, likewise, that this opposition to foreigners has not among its promotors leading medical men—those who have made their reputation and who are above the scramble for patients which is going on around them—but that its especial champions are a class of practitioners who are entirely "unknown to fame," and whose action is influenced by a desire to hold on to the profitable "business" which comes to them through the instrumentality of their friends, the couriers, landlords and concierges of Paris. Not an observation on this subject has been uttered by such men as Labbé, Ricord, Charcot, De Mussy, Peter, Gayon, Simon, or, in truth, any one of the great physicians and surgeons of the country; while from the rapacious crowd of professional chiffoniers and souteneurs a cry for suppression and expulsion is heard incessantly, and with ever-increasing virulence.

As you doubtless know, a large majority of the hotels and *maisons meublées* on "this side of the water" have connected with them certain medical jobbers, who call themselves "médecins titulaires." These doctors are usually chosen from those who, in the desperation of their impecuniosity, can be forced to disgorge a large percentage of their fees, and undertake any dirty work which may be required of them, without compunction or complaint. Of course, they practice exclusively in the interests of their employees, without regard to the cure or convenience or the comfort of their patients, and it makes but little difference who the suffering guest may desire as his physician, the doctor of the hotel usually secures the case. The physician asked for can never be found, and the one introduced is palmed off as some "great luminary in the world of medicine," whose coming is to be regarded as a special providence and the guarantee of a speedy cure. The "médecin titulaire" being once installed, "mine host," whose pliant tool he is, immediately

becomes master of the situation, and the luckless sufferer is either hurried off to a *maison de santé* for fear of contagion, or is consigned to his bed until nature triumphs and returning health clears the sick-chamber of its flock of cormorants, or a "first-class funeral" fills to repletion the pockets of his attendants with the gold which rightfully belongs to his heirs at home.

I once knew of a child who was suffering with bronchitis, accompanied by an insignificant rash, driven from a hotel in a drenching rain, against the protests of its regular medical attendant and the appeals of its frantic mother, to satisfy a craving and grasping landlord, who feared that the case might be scarlet fever, and would possibly injure his house. In this instance the doctor was introduced clandestinely during the temporary absence of its mother, and with the full knowledge that the physician of the family was accessible. Fortunately, the little sufferer was not sent to the *maison de santé* with which this wretch was connected, but to a neighboring hotel, where it was tenderly cared for, and soon recovered, without the manifestation of a single symptom of scarlet fever.

In another instance, a young American, who was slightly nervous from overdrinking, was confined to his rooms for several weeks, guarded by an attendant, who prevented him from communicating with his friends—who were actually in Paris at the time, and exceedingly solicitous in regard to him—at an expense of about six hundred dollars for medical attendance. The excuse offered for this incarceration was an alleged attack of *mania à potu*, and yet, not only were his friends kept from a knowledge of his condition, and a consultation with another doctor refused, but he was lavishly supplied with the finest wines and liquors, by the special order of his doctor.

I could easily fill this letter with instances illustrative of the chicanery and dishonesty of the groveling creatures who thus live exclusively upon "the crumbs which fall from the tables" of houses of public entertainment here, in the form of the sick and suffering travelers who are confided to their bungling hands, but I will let the subject drop for the time being, with the remark that a fatal termination is the result which they most desire, for "dead men tell no tales," neither of multiplied items in medical bills, nor of partitions made with hungry harpies who do not hesitate to seek their spoils at the portals of the grave itself.

Professor Chancellor, of Baltimore, in a letter to one of the Maryland papers, written during a recent visit to Europe, after drawing a graphic sketch of these so-called *médecins titulaires* gives the following excellent advice respecting them: "Travelers should make it a rule to take any other physician than the one proposed by a landlord, concierge or courier, unless the one thus recommended be a compatriot, or is endorsed by some disinterested person; and they should insist upon having the doctor of their choice really sent for, accepting no substitute for him, and taking no excuse for any delay or neglect in regard to the matter."

Coming as this advice does from a gentleman of character and intelligence, who has had an opportunity of investigating the subject for himself, it should be treasured up and acted on universally and invariably. It is earnestly to be hoped that every physician who has at heart the best interests of the profession, and the welfare of the public, will make it a point to impress the timely admonition of Dr. Chancellor upon the minds of such friends as may propose at any time to visit Europe. He cannot, by any possible means, render them a greater service or one that they will be more grateful for in the end.

Residing abroad, and having essentially an American *clientèle*, I naturally feel a deep interest in the overthrow of this pernicious system —this infamous conspiracy against the lives and purses of my compatriots—but it is from far higher and better motives than any degree of selfishness could inspire that I call the attention of the members of the profession to this end, and urge them to prompt and vigorous measures for its suppression.

In exposing these frauds, I do not mean to attack all who hold relations with the landlords and concierges. There may be honest and reputable men among them, and, if such really exist, they deserve all the more honor because of the resistance of the temptations which surround them, and their disregard of the example set by their less scrupulous associates.

Nor do I mean to assail the physicians of France *en masse*. While asserting that as a body they revere the institutions of their own country pre-eminently, and are disposed to view with distrust the claims of their alien competitors, I can bear emphatic testimony to their courtesy, honesty and learning. Among their representative men I have found as high a sense of personal honor, and as profound a regard for the interests of the profession, as the most exacting standard in these regards could suggest. The English journals have recently spoken most contemptuously of medical education in America. They have even had the temerity to assert that no diploma from our schools deserves recognition, which is only another way of saying that the physicians of the United States are not entitled to be received and treated as equals by their foreign brethren.

While the limits of this letter prevent the demonstration of the fact that alike in the field of surgery, of medicine and of authorship, American physicians have achieved results which compare favorably with those of any other nationality, there is one practical circumstance which should teach these gratuitous revilers the lesson, at least, of silence in regard to the supposed defects of our schools, and the consequent deficiencies of their graduates.

I have before me the *American Register* of Paris, and on turning to its "directory" I find conspicuously dislayed, under the head of "American Medical Advisors," the name of an Englishman who holds only London degrees, and who was never out of sight of British shores save when he crossed the Channel and came over to France.

Now, as it is impossible even to suppose that a representative of all the

superiority which has been claimed for English graduates, individually and collectively, could be influenced by other than honest motives, this advertisement can only be considered in the light of a tribute to the higher standing and acknowledged excellence of the American medical profession. It proves logically, and by English testimony, that the title of "American Medical Advisor" is more honored and esteemed by the world at large than is any qualification appertaining to the institutions of the country to which this individual really belongs, and in vaunting which so many disagreeable things have been said against us. It shows incontestably also, that when a Briton finds himself out of his isle, among dispassionate judges of the situation, and wishes to be considered somebody, the peer of competitors and confrères, he has the tact to drop his nationality for the occasion, and to hoist the American flag, even if in so doing he has to incur the *soupçon* of being a renegade, and to pay for the dodge at the heavy rates demanded by the *Register* for its complicity in the attempted deception.

People will talk, and there are some about town who are so ungenerous as to think, and to assert, that the party referred to is a professional pirate, and deliberately sails under false colors, with the design of bagging American customers; but the icy way with which he treats all who by chance fall into his hands, together with the ethical consideration to which I have called your attention, certainly seems fatal to this hypothesis. Give the devil his due forever!

Nevertheless, though the world has grown familiar with the process by which every foreign-born "tooth-puller," who aspires to the fame and fortune of an Evans or a Kingsley, is transformed into an American dentist, it beholds with amazement the trick whereby a full-blooded "English sawbones" is transmitted into an "American Medical Advisor," and hails it as an advance in jugglery without a precedent or a parallel. So runs the world away, and such is the *comble* of human ingenuity *outre mer*.

The fame of Charcot grows daily. The fecundity of his intellect is a marvel in itself and a wonderment to his most reliant admirers. Though seemingly overwhelmed with the demands of private practice and the duties of public positions, to the surprise and delight of the profession he finds the time to investigate and elucidate the most recondite problems appertaining to all the departments of medicine. Each day of his busy life but adds some greater discovery to the domains of science, and contributes a fresher laurel to the crown of his own imperishable renown. Heedless of the malice of jealous rivals, deaf to the adulation of ardent admirers, and indifferent to the demands of personal necessities and requirements, he devotes himself exclusively to his mission as a physician and a scientist—to the relief of human suffering and to the solution of the great problems in physiology and pathology which he has made his specialty.

His *salle de réception* is one of the veritable curiosities of Paris, filled

as it daily is with crowds of impatient clients, speaking every conceivable language, and struggling to make terms with the consequential *portier* for a speedy admittance to the presence of the "man of destiny" within.

I have known an invalid, who had crossed the ocean for the special object of obtaining Charcot's opinion and advice, sit out three entire series of "hours of reception" without having his turn for a séance arrive, and then find himself constrained to get another physician invite "the Professor" to a consultation in due form, at his hotel. Dr. Charcot prides himself upon being essentially a "consulting physician," and the best way to secure an audience with him, and to get the full benefit of his skill, is to pursue the course to which I have just alluded, viz.: for the patient to place himself under the charge of some other physician and to have him request "a consultation at the earliest convenient moment." This will cost rather dearly—for in this country both parties to a consultation receive the same fee—but it will secure a more thorough examination and deliberate opinion at the hand of the great specialist. When seen in this way—apart from the hurry and pressure of his office hours—he is one of the most sympathetic of physicians and charming of men. Of a grave but attractive presence, speaking English to perfection, listening attentively to any statement and suggestion of his patients, quick to perceive and appreciate every symptom of the case, and without an atom of pretention or quackery in his nature, he bears himself in the chamber of sickness like a friend, a gentleman and a master, and he never fails to make an impression as profound as it is pleasant and inspiring.

To his skill as a physician, and his triumphs as a savant, the world can testify; but of his loyalty as a friend, and his character as a gentleman, it is my special privilege to speak. Nearly thirty years ago, when he was an unknown and struggling young man, we became acquainted under circumstances which drew us closely together, and ever since—alike in storm and sunshine, under all circumstances, and to the fullest measure of his ability—he has shown to me and to mine the affection and the fidelity of a brother. It is mainly to the potency of his great name that I enjoy the right to practice medicine in France, and to wear the Cross of the Legion of Honor upon my breast. And in the intimate relations of all of these years I have had abundant opportunities of testing the material out of which his real nature is constructed, with the result of finding it to be genuine metal—without a trace of alloy or counterfeit. But I have occupied space enough in your pages for the present, and I must reserve the other matters to which I would invite your attention, for future occasions. *Au revoir*, and believe me,

Very truly and respectfully yours,

EDWARD WARREN (Bey), M.D.

Rooms of Joint Committee of Conference (G. A. R. and ex-Confederates), organized to aid in erecting a Home for Disabled ex-Confederate Soldiers, 55 Liberty street (Room 52).

J. B. Gordon, Chairman.
J. R. O'Bierne, Vice-Chairman.
Wm. Hancock Clark, Secretary.
W. P. Stowe, Assistant Secretary.

New York, April 29, 1884.

To the Editor of Gaillard's Medical Journal:

Dear Sir: You are perhaps advised of a movement which has been set on foot by ex-Confederate and Union soldiers, with the co-operation of Northern and Southern citizens, without reference to party affiliations, for the erection of "Homes for Disabled ex-Confederate Soldiers." A number of meetings have been held, and the undersigned has been selected as Chairman of the Central Committee in charge of this movement. It is safe to say that no movement made since the war is destined to have so beneficent and lasting effect for good upon the future of this country as this. The primary object, which is to give shelter and comfort in their declining years to the brave men who lost limb and health in battle, and who cannot appeal to the general Government for pensions, is one which, of course, must find sympathy and support in the hearts of every good man and woman; but this object, however laudable, is perhaps the least of the benefits which are to accrue. These homes will become, when their disabled occupants shall have passed away, institutions for the education and training of their children. They will also become monuments of a real peace and real union, as well as monuments to the magnanimity of the victors in the late war.

I do not write you to make any appeal for any contribution whatsoever. It is simply to make known to you that such a movement is on foot, and that funds are being received for this purpose. It is the unalterable determination that this movement, in order to attain its highest purposes, must find its own support in the sympathies of the people, and make its way to success by none of the ordinary methods of solicitations through agents or otherwise. No one is authorized or permitted, so far as the committee can control the matter, to solicit a subscription for this cause.

I am glad to tell you that the contributions are coming in even before the business arrangements are fully completed; that one of the leaders of the Union armies in the late war, whose name I withhold from considerations of delicacy, has already tendered, not only all his influence, but $500 in money. Other subscriptions have been sent by private Union soldiers, themselves poor and wounded, who donate a portion of their own pensions received from the Government. Northern ladies, who withhold their names, send in their contributions. A large number of

Southern gentlemen, resident in New York and vicinity, have also furnished the Committee various sums, ranging from considerable amounts down to very small sums, for paying the necessary expenses of inaugurating this movement on a scale commensurate with its high and patriotic aims.

This letter, as stated above, is not intended by any means to solicit from you a contribution, but it was thought due to you that the matter be brought to your attention, as the committee could not assemble all our friends in meetings, because not advised fully of the addresses of Southern men now resident or sojourning in New York and vicinity.

In a few days the banking arrangements will be fully perfected, but in the meantime Mr. W. M. Connor, proprietor of the St. James Hotel, in this city, has been appointed treasurer for this fund. Should you feel inclined to contribute, you can send to him such amount as may suit your convenience or wishes (notifying me, as chairman, on enclosed card), with authority to use such portion of the same as may be necessary to pay the incidental current expenses. It is, perhaps, needless for me to say in this connection that those expenses include only the rent for the necessary rooms, the printing, postage, stationery, etc., incident to the extensive correspondence already on hand, and which will accumulate rapidly from day to day. No salaries or commissions, of course, are paid to any of the parties engaged in this great, charitable and patriotic movement, which may be said to be spontaneous and unsolicited.

I am sincerely yours,

J. B. GORDON,

Chairman Central Committee.

NOTE.—This eloquent letter needs no commendation to impress the beneficent objects of it upon the attention of the liberal, the charitable and the just. It is therefore published without further supplement than this brief note.

While history and the victors in the great battles which so recently billowed this country with graves have termed the Confederate appeal to arms "a rebellion," and have, so far as a mere name can effect a verdict, sought to cover this appeal with ignominy, there are increasing evidences coming yearly before the Public which show that, in the judgment of the just, both parties in the late war staked their lives upon causes believed by each to be right, and noble, and true. And while the horrors of battle have given place to the sun of peace, and though the best and the bravest in the "lost cause" have rendered to this Government an allegiance which is past criticism in its fidelity, no one worthy of notice can believe that the defeated respect less the cause for which they offered up their lives, their fortunes and their happiness. More than this—the noble amongst the victors esteem and respect those who bravely lost a cause believed to be just, even as highly and as sincerely as they do those who fought against and overpowered them. This movement in behalf of wounded ex-Confederate soldiers is one of the many contemporary evidences of the truth of this statement; and in support of this movement are now to be found the noblest (of both sexes) among those who gave so liberally in support of the Federal cause.

There are among "the Confederates" a few mean and depraved enough to be ashamed of the cause they once claimed to support, and there are among the "anti-Confederates" some yet fanatical enough to regard as the only noble cause that which they (in the rear) claim to have supported; but such Confederates and such anti-Confederates, if they cannot blush for themselves, at least cause their friends to blush for them.

The noble and the true are the liberal and the just. This appeal is for them. They are asked to give it their earnest and liberal support.—E. S. G.

BIOGRAPHY.

Professor Samuel D. Gross.

Professor Samuel D. Gross, M.D., died in Philadelphia, May 6, 1884. He was born in the suburbs of Easton, Pennsylvania, on July 8, 1805. His early education was acquired at the Wilkesbarre Academy, and at the High School in Lawrenceville, N.J. He began the study of medicine with Dr. J. K. Swift, in Easton, and subsequently entered the office of Prof. George McClellan, of Philadelphia. He was graduated from the Jefferson Medical College of the latter city in 1828, and began the practice of his profession in Philadelphia. His leisure hours were occupied with study, and the translation of standard medical works from the French and German. Two years after his graduation he published the first of the numerous medical treatises which have helped to make his name known to the profession throughout the civilized world. This first volume was entitled "Diseases and Injuries of the Bones and Joints," and in it particular mention is made of the use of adhesive plasters as a means of extension in the treatment of fractures; now a practice general with physicians of this country and Europe.

The same year he returned to Easton, where he practised medicine for three years. In 1833 he was made Demonstrator of Anatomy in the Medical College of Ohio, at Cincinnati, and two years later he was made Professor of Pathological Anatomy. While holding this position Prof. Gross delivered the first systematic course of lectures on morbid anatomy ever given in the United States, and also composed his "Elements of Pathological Anatomy," which was the first work of the kind ever published in the English language. In the fall of 1840 he accepted the Chair of Surgery in the University of Louisville, and labored for ten years in the lecture-room. In 1850 Prof. Gross came to this city, where he had been elected to fill the same chair he vacated in Louisville in the University of New York, as successor of the venerable Dr. Valentine Mott.

He left New York after the first session of the University, and returned to Kentucky. This was done because Dr. Gross desired to return to his late home, and because Prof. Paul F. Eve, who had succeeded Dr. Gross in the University of Louisville, resigned his chair, as soon as he heard of the desire of his predecessor. This noble and generous act deserves to be recorded here. The noble act of a noble man.

Dr. Gross remained until 1856, when he was elected Professor of Surgery in his alma mater, Jefferson Medical College, in Philadelphia.

He remained the Professor of Surgery in Jefferson Medical College for 26 years, and in 1882 he tendered his resignation because of his advanced years and a desire to afford younger men an opportunity. In November of the same year Dr. J. Marion Sims and his son, Dr. Harry Marion

Sims, gave Prof. Gross a reception at the Hotel Brunswick, in this city, at which all the leading physicians of this city and many eminent medical practitioners from all parts of this country and Europe were present, to signalize the great surgeon's retirement from the active practice of his profession.

During his Professorship in Philadelphia, Dr. Gross made his name known throughout the world, not only as a surgeon, but as an author. In 1857 he was elected President of the American Medical Association, and four years later was chosen Chairman of the Teachers' Medical Convention at Washington. He was one of the founders and early Presidents of the Kentucky State Medical Society, and while in Louisville he published an elaborate and exhaustive treatise, called "Report on Kentucky Surgery," in which he first established the fact that the late Dr. Ephraim McDowell, of Danville, Ky., was entitled to the honor of being the father of ovariotomy, which had been previously ascribed to other surgeons. Soon after his return to Philadelphia, in conjunction with Dr. Da Costa, he founded the Philadelphia Pathological Society. In June, 1870, he was chosen President of the Pennsylvania State Medical Society.

In 1872 Prof. Gross made his second visit to Europe, whither he was preceded by his reputation as a surgeon of brilliant success and an author of world-wide reputation. The University of Oxford, which was then celebrating its one-thousandth anniversary, recognized his genius and fame by conferring upon him the honorary degree of D.C.L., he having previously received the degree of LL.D. from the Jefferson Medical College. The University of Cambridge followed the example of its sister institution, and also conferred upon Prof. Gross the degree of LL.D. Honors came upon him thick and fast. He was made a member of the American Philosophical Society; the Imperial Medical Society in Vienna; the Medical Society of Christiania, in Norway; the Royal Medical and Chirurgical Society of London; the Medico-Chirurgical Society of Edinburgh; the Medical Society of London; the British Medical Association, and of almost all the medical societies in this country. He was twice an accredited delegate from this country to the British Medical Association, and was President of the International Medical Congress which met in Philadelphia in 1876.

Prof. Gross was a voluminous author. In addition to the works previously named, he is the author of a "System of Surgery," upon which his posthumous fame will most probably depend. The work first appeared in 1859, and before 1872 had passed through five editions. The last edition, issued in 1872, was thoroughly revised by the author, and brought up to the state of science existing then. It is in two volumes, and is illustrated by more than 1,400 engravings. It was translated into the Dutch language, and published at Nieuwediep in 1863. It is the most exhaustive and elaborate treatise on surgery ever written by one man. Prof. Gross also edited a large work on "American Medical

Biography," and was one of the founders and chief editors of the *North American Medico-Chirurgical Review*, which had a successful career for five years, and was discontinued when the war commenced. He was the author of numerous addresses on medicine, surgery and biography, of a "History of American Medical Literature," and a "History of the Progress of American Surgery During the Last Century." Among his standard medical works, which are in continual use among the medical profession, are: "Diseases, Injuries and Malformations of the Urinary Organs;" "Elements of Pathological Anatomy;" "Wounds of the Intestines;" "Foreign Bodies in the Air Passages;" "Results of Surgical Operations in Malignant Diseases;" "Report on the Causes which Retard the Progress of American Medical Literature," and "Manual of Military Surgery."

Prof. Gross was always an ardent and earnest advocate of professional progress and a higher standard of medical education. He was so systematic and economical of his time that he studied and composed while riding about on his daily routine of professional duties. He was an active teacher of surgery for almost half a century. He was the best compiler known. Though not original in thought or action, he achieved magnificent results.

Dr. Willard Parker.

Dr. Willard Parker died at his late residence, No. 41 East Twelfth street, at 3 o'clock P.M., April 25th, 1884. About a year and a-half ago the symptoms of the disease which resulted in his death first appeared. The cause was pyelitis. He was ill for some time, but during last summer the symptoms were abated. The intense pain passed away, and for a time Dr. Parker enjoyed a fair degree of health. About six months ago the symptoms returned with renewed intensity, and he sank gradually under the intense drain upon his vitality, until the evening of Sunday, December 9, when his death was hourly expected. The next day he was relieved.

On the evening of April 13, Dr. Parker's illness was intensified by aphasia. Since that time he had been unable to articulate any but the words "yes" and "no," and these replies were unintelligible except to his relatives and attendants. He had been gradually sinking since that time, but his death was apparently painless.

Willard Parker, M.D., LL.D., was born in Lyndeborough, N. H., September 2, 1800. He came of Puritan stock on both his father's and mother's side. His father was a farmer. Willard Parker was an ambitious youth, who assisted his parents on the farm in summer and attended the village school in winter. His ambition was to secure a college education. To provide money for this purpose, he began teaching when 18 years old. He taught for four years, and, having accumulated what seemed a sufficient amount, he entered Harvard University in 1822, and was graduated in 1826.

Dr. Parker entered college with the intention of studying for the ministry. An incident which occurred in his Freshman year led to a change in his choice of a profession. His "chum" had strangulated hernia, and a local physician failed to give relief to the sufferer. Dr. John C. Warren, of Boston, was called in, made his diagnosis, and reduced the hernia so skillfully, that young Parker decided to devote his life to the study and practice of medicine and surgery.

In the spring of 1827 he received an appointment as an *interne* at the Chelsea United States Marine Hospital. He remained there about two years. Afterward he was appointed Professor of Anatomy in the Berkshire County Medical College at Pittsfield, Mass., then one of the leading institutions of its class in the country. In 1832 he was made a Professor of Surgery, and for four years filled both chairs, delivering two lectures daily. In 1836 he accepted the Chair of Surgery in the Cincinnati Medical College, remaining there three years. During his occupancy of this position, he made a trip to Europe to study the methods in the French and English medical colleges. In 1839, after his return from Europe, he settled in this city, having been appointed Lecturer on Surgery in the College of Physicians and Surgeons.

His success was immediate, and he rapidly rose to the position of one of the foremost surgeons and general practitioners of the city and country, his fame extending to the European continent. Dr. Parker was both successful and popular as a lecturer. This was due to his wonderful aptness in illustration, in which he avoided as far as possible technicalities.

Among the public works in which Dr. Parker took an active part was the reorganization of the city hospital system in 1845. This resulted in converting Bellevue Hospital from an almshouse into a charity hospital, under a board of governors. Dr. Parker and the late Dr. James R. Wood were appointed visiting surgeons. Though not, perhaps, so prominently identified with the growth of that institution as was Dr. Wood, he was more or less actively and intimately connected with the steps which led to its growth. He took a deep interest in its success, and contributed much to this end. Dr. Parker was also prominently identified with the reorganization of the health department of this city. In 1865 he succeeded Dr. Valentine Mott as President of the State Inebriate Asylum at Binghamton, entering upon the work as a matter of duty. He saw a possibility of carrying out well-digested views as to the treatment and cure of dipsomania. He believed that alcohol was a poison and never a food, and that drunkenness was a disease, often hereditary in character. He counseled all his patients to abandon the use of spirits at all times, except on the advice of a physician. Dr. Parker resigned his active duties as Professor in 1870, in which year he received the degree of LL.D. from Princeton College. Since that time he had been consulting surgeon to the New York, Bellevue, St. Luke's, Roosevelt, and Mount Sinai Hospitals, and Professor Emeritus of Surgery in the

College of Physicians and Surgeons He was an active or honorary member of many societies, medical and surgical, in this and several other States. With his retirement from teaching came a partial retirement from his labors as a general practitioner. He continued to practice, however, in many families whose physician he had been through a long series of years, and he was frequently called in consultation in surgical and medical cases.

Dr. Parker insisted upon having the full confidence of patients, and in return confided to them his full diagnosis of the case, its causes, possible results and mode of treatment. The necessity of a full co-operation on the part of the patient was impressed upon him, and the case was fully explained, frequently by the use of plates and books from his library, one of the most extensive medical libraries in the country. To this method he ascribed much of his success. His methods of treatment were of the simplest possible character as a rule, and he had no faith in, or fondness for, medication, save where he deemed it absolutely necessary. Homely remedies, such as are sometimes called "old women's remedies," and which called simply for an obedience to the rules of health, a simple diet, an abstinence from medicament, were often his sole prescriptions. Since retiring from teaching in 1870, Dr. Parker had passed the greater portion of his time at his farm in New Canaan, Connecticut. There he indulged his fondness for agriculture, and found health, rest and strength. His first city residence was at the southeast corner of Bleecker street and Broadway. There, during his first year's practice, his income from his professional business amounted to but $300. During the height of his professional career, however, this sum would not equal his weekly income from the same source.

It was as a surgeon that Dr Parker achieved his most brilliant successes. He was ambidextrous, using either hand in operating with equal ease and facility. Even during the past year he performed delicate operations without the use of glasses, using either hand, as it came most conveniently. Among his contributions to the art of surgery were cystotomy, for the relief of chronic cystitis; an operation for the cure of abscess of the appendix vermiformis, and the laceration of the perinæum and sphincter ani during parturition, cured by the division of the coccygeal attachment of the sphincter and subsequent closure of the perinæum by sutures. Dr. Parker was not a writer, and even his reports of remarkable cases or delicate operations have been made for him by other members of his profession. Though a close student, he disliked to write, this aversion being in part due to the fact that the pen was not rapid enough to follow his thoughts. A large number of reports of his cases appear in medical and surgical journals.

It was due in great part to Dr. Parker's simple mode of life that he displayed so much vigor in his advanced years. He had an erect carriage, an elastic step, and eyes and features that sparkled with life and animation. The purity of his life was a bright feature, and one that was

frequently commented upon. His home life was of the happiest, and buried among his books, when not in his family, he enjoyed a contented, peaceful life. He was twice married, and leaves a widow, a son (Dr. Willard Parker, Jr.) and two daughters. His second daughter, Mrs. Lindley, who died in 1879, was for ten years a missionary in Africa. Dr. Parker was a member of the University Place Presbyterian Church, of which he was for a long time a trustee.

PROCEEDINGS OF SOCIETIES.

[NOTE.—The weekly medical journals very properly publish the proceedings of societies as soon as the societies adjourn. This journal being a monthly cannot, of course, do this ; it wil publish, therefore, only such carefully obtained proceedings of American and European societies as are most interesting and instructive.—Ed.]

American Medical Association.—Thirty-fifth Annual Meeting, held in Washington, Tuesday, Wednesday, Thursday and Friday, May 6, 7, 8 and 9, 1884.

Tuesday, May 6th—First Day.

The meeting was called to order at 10.30 A.M. by the Chairman of the Committee of Arrangements, Dr. A. Y. P. Garnett. After a prayer by the Rev. William A. Leonard, the Chairman introduced the President of the Association, Dr. Austin Flint, of New York.

Address of welcome read by Dr. Garnett, after which he announced the list of entertainments.

Communications from eminent medical men of Europe read and ordered on the minutes.

The registration showed five hundred and ninety present. On registering, each delegate had subscribed to the following declaration: "In acknowledgment of having adopted the constitution, by-laws and code of ethics of this body, and of my willingness to abide by them, and use my endeavors to carry into effect the objects of this Association, I hereunto affix my name."

THE PRESIDENT'S ADDRESS.

Dr. Austin Flint, President, then delivered his address. He first made reference to the origin of the Association and to the objects for which it was founded. The plan of organization, with constitution and by-laws and code of ethics, was adopted in 1847, and therefore it was in the thirty-eighth year of its existence.

Little was to be expected from State Legislatures in those days, and in that respect no marked progress had been made, for the terms regular and irregular were then, as now, not entitled to legal distinction. There seemed to be, therefore, need of unity of council of the members of the medical profession from all parts of the country for its own protection.

The development and growth of the Association were rapid, and it has passed through a healthy adolescence into mature age. It had outlived and profited by the errors of its youth, and before him was the evidence that it was replete with vitality and vigor.

It had been said that the recommendations regarding medical education had been nugatory, but there was less room for reproach in that direction than some

had supposed. It would be absurd to suppose that the recommendations first made were those which should be followed at the present time, for most of them had been surpassed by the medical colleges. That there was room for further advancement no one would deny, but it was not at all certain that it would continue to the satisfaction of those who regarded with disparagement the progress in medical education manifested in this country.

The President then referred to the close relation which should exist between didactic and clinical teaching, the substitution of recitations for didactic lectures, extension of the period of time for medical teaching, and the advantages of a preliminary education. Concerning the latter, it might be fairly questioned whether the time spent in the study of Greek and Latin might not be expended with more profit in the study of physics and chemistry and the French and German languages.

The progress which had been made with regard to the preliminary education of the medical student had been less satisfactory than that made in medical instruction. That more progress had not been made was partly the fault of the medical schools and partly that of private preceptors; more, however, with the latter than with the former.

WHAT CAN THE ASSOCIATION DO TO PROMOTE THE STANDARD OF MEDICAL EDUCATION?

First, of the things desirable not to do. It was not desirable to decry medical instruction in this country as unworthy of any commendation, and contemptible when contrasted with the medical education of other countries. Such disparagement was not warranted by facts, and we had no occasion to be ashamed, as the members of our profession in this country are not ignorant or in any respect unworthy. The profession was honorable and honored. In no country was its social status higher. The sweeping charges against the medical schools were unwarranted, unwise and unbecoming. He did not wish, however, to appear as an apologist for abuses which affect, directly or indirectly, the standard of medical education. He suggested the appointment of a standing committee, whose function should be to communicate with State associations and medical colleges, with the view to securing uniform action concerning the requirements for matriculation and graduation, and to report to the Association what had been actually accomplished. Not all the improvement desired could be accomplished, but perhaps the question of preliminary education could be considered first and with decided advantage.

With regard to establishing

BOARDS OF MEDICAL EXAMINERS, INDEPENDENT OF THE TEACHING BODY,

the President, without stopping to discuss this point, said that, while there might be some seeming advantages in the plan, it would be impracticable to secure uniformity in the different States of the Union, and it also contravened the principles of self-reliance in matters pertaining to the medical profession. He devoted considerable space to the consideration of the subject of

MEDICAL ETHICS,

and answered several objections which had been urged against the Code of the American Medical Association; for example, that it was antiquated, inoperative, etc. Attention was directed especially to the clause regulating consultations, and the views were expressed which have been set forth in a series of comments previously published by Dr. Flint, and with which the profession is already familiar.

The voluntary assumption of a distinctive name, and the announcement to the

public that his medical practice is based upon a distinctive system of medicine opposed to legitimate medicine, constitutes an irregular practitioner, and one with whom consultation cannot be held without violating the Code.

While it might be regarded as hazardous to attempt to tamper with the Code, it was safe and reasonable to have interpretations of the Code offered from time to time, and he therefore submitted the recommendation "That the Association adopt resolutions embodying the grounds, more satisfactory than they are given in the Code as it now stands, for refusing fellowship with irregular practitioners." These could be passed, and others of like purport, from time to time, without necessitating any change in the By-laws or Constitution, and could therefore become at once operative.

Concerning means of enlightening public opinion, the popular diffusion of our Code of Ethics might be beneficial. With regard to emergencies, there was no antagonism between acts of humanity and the Code of Ethics.

The President then referred to the work done in the sections, the friendly feeling fostered by international associations, and suggested that steps be taken with the view to securing the meeting of the International Medical Congress in 1887 in this country. The suggestion was not the outgrowth of his own thoughts alone, but was proposed by Dr. Samuel D. Gross.

In conclusion, he thanked the Association for the honor conferred upon him, the grateful appreciation of which was enhanced by the fact that it came unsought.

Dr. J. M. Toner, of Washington, D.C., moved a vote of thanks to the President for his address, and the request for a copy for publication. Carried.

Dr. Toner also offered a resolution of sympathy for Dr. S. D. Gross, in his severe illness. Adopted. The Association directed that the communication be sent by telegraph.

Dr. Gilson moved that the portion of the President's address relating to Professor Gross be forwarded by telegraph. Carried.

Dr. Richardson, of New Orleans, said that he saw Dr. Gross only a few hours before, and when he asked him if he had any special message to send to the Association, he replied: "Give them my love."

A telegram from Dr. W. O. Baldwin, of Alabama, announced regret at his inability to attend the meeting.

On motion of Dr. L. A. Sayre, of New York, the Association empowered the President to appoint a committee of five to carry into effect measures to secure the Meeting of the International Medical Congress in this country in 1887.

On motion of Dr. Ferguson, of Troy, N. Y., the President's address was referred to a committee of seven, to be reported on as speedily as possible.

Dr. Albert Blumenberg, of Alleghany County, Pa., and Dr. B. F. Shreve, of Iowa, were named for

MEMBERS BY INVITATION.

Dr. Keller, of Arkansas, raised the point that none could be made members by invitation except those from regions not otherwise represented. The point was declared to be well taken.

Dr. Keller then moved that all those who had been named as members by invitation be invited to seats in the present meeting of the Association.

Dr. X. C. Scott offered a protest against the admission of Dr. A. G. Sherman, which was referred to the Judicial Council.

The Association then adjourned, to meet at 10 A. M., May 7th.

Wednesday, May 7th.—Second Day.

The Association was called to order at 10 A. M. by the President, and prayer was offered by Rev. W. A. Bartlett, D.D.

COMMITTEE TO PREPARE RESOLUTIONS ON THE DEATH OF SAMUEL D. GROSS.

The President referred to the death of Dr. Gross, and appointed the following Committee on Resolutions: Drs. T. G. Richardson, of La.; Lewis A. Sayre, of N. Y.; J. H. Packard, of Pa.; F. H. Hamilton, of N. Y.; Moses Gunn, of Chicago; W. T. Briggs, of Tenn.; and I. Minis Hays, of Pa.

On motion by Dr. Jenks, of Texas, the President was added to the Committee, and on motion by Dr. Richardson, Dr. Flint was made Chairman of the Committee.

The Secretary read the following telegram, received from Dr. Samuel W. Gross, addressed to the Association: "Your resolutions and extract from the President's address were received too late. Accept the warm thanks of the family with great tenderness and consideration."

The communication was accepted and ordered entered upon the minutes.

The Secretary announced the following

COMMITTEE ON NOMINATIONS:

Jerome Cochrane, Ala.; P. O. Hooper, Ark.; G. L. Porter, Conn.; F. W. Hatch, Sr., Cal.; Jesse Hawes, Col.; Hector Galloway, Dak.; William Marshall, Del.; J. W. H. Lovejoy, D. C.; R. B. Burroughs, Fla.; W. F. Holt, Ga.; E. P. Cook, Ill.; Thomas B. Harvey, Ind.; H. C. Huntsman, Ia.; F. F. Dickman, Kan.; W. H. Wathen, Ky.; T. G. Richardson, La.; F. C. Thayer, Me.; J. F. Lynch, Md.; Charles A. Savory, Mass.; H. F. Lester, Mich.; D. Leasure, Minn.; B. A. Duncan, Miss.; N. F. Essig, Mo.; S. D. Mercer, Neb.; Joseph Parrish, N. J.; C. G. O'Hagener, N. C.; J. W. S. Gouley, N. Y.; J. W. Parsons, N. H.; W. M. Beach, O.; J. B. Murdock, Pa.; James H. Eldridge, R. I.; William Huger, S. C.; Duncan Eve, Tenn.; J. H. Pope, Tex.; Alexander Harris, Va.; George Beard, W. Va.; William Fox, Wis.; H. D. Holton, Vt.; N. L. Bates, U. S. N.; J. R. Smith, U. S. A.; Walter Wyman, U. S. Marine Hospital Service.

COMMITTEE ON THE PRESIDENT'S ADDRESS.

N. S. Davis, of Illinois; W. W. Dawson, of Ohio; W. T. Briggs, of Tennessee; T. F. Prewitt, of Missouri; J. L. Cabell, Virginia; H. B. Ransom, and D. W. Stormount.

MEDICAL SERVICE ON SHIPBOARD.

The committee appointed to frame resolutions in favor of securing more competent medical and sanitary service on board trans-oceanic passenger vessels reported, through its Chairman, Dr. A. N. Bell, of New York, that a bill had been prepared and presented to Congress which covered the matter. Dr. Bell stated that the mortality on board emigrant ships entering the port of New York for four years, up to 1883, was 35.12 in a thousand, being considerably greater than for a like period ending in 1873. This death rate was at least three times as great as it ought to be. The causes of death were largely negligence and filth.

Dr. Keyser, of Pennsylvania, said the bill before Congress was excellent, so far as it went, but it did not go far enough; it provided that the ship's surgeon might report to the captain, and the captain to the company—but to whom was the company to report? The bill should require the surgeon to report directly to the United States Government.

Dr. Irwin, an English physician, thought the object of the bill was excellent,

but that it was impracticable as it stood, and would prove ineffectual. He suggested certain points of improvement.

On motion, the report was received, and the committee continued, the suggestion having been made that information in regard to the matter be reduced to writing and submitted to the committee.

Dr. Pratt, of Michigan, moved the following resolution, which was carried unanimously:

Resolved, That the American Medical Association, now in session, urge upon Congress the necessity of suitable and efficient legislation to promote the well-being of immigrants to this country, and to protect our public health.

THE ADDRESS IN MEDICINE.

The Chairman of the section, Dr. John V. Shoemaker, of Philadelphia, then read his address.

THE ADDRESS IN OBSTETRICS

was read by the Chairman of the Section in Obstetrics and Diseases of Women, Dr. T. A. Reamy, of Cincinnati; he said that he would depart from the usual custom of giving a review of progress in the department, and would refer the members to current literature for the same. He read notes of 231 cases of laceration of the cervix uteri in which he had operated.

Dr. F. Horner, representative of the Virginia State Medical Society, offered a resolution with reference to

A PERMANENT FUND FOR THE FAMILIES OF DECEASED PHYSICIANS.

It was ruled out of order, as it was new business, which could not be entertained on the second day of the meeting.

Dr. Henry Smith, of Philadelphia, offered the following resolution concerning

EXPERIMENTAL MEDICINE:

Resolved, That a standing committee of seven, with power to increase its number as may be deemed necessary, be appointed by the President, to be known as the Committee on Experimental Medicine of the American Medical Association, charged with the duty of opposing, by all legitimate means, any proposed legal interference with the progress of medical science, as unwise and ill-considered legislation.

The resolution was supported by Drs. P. D. Keyser, of Philadelphia, and John C. Dalton, of New York, and was adopted with only one dissenting voice, that of a woman in the gallery.

The President appointed Dr. Horatio C. Wood, Philadelphia, Chairman; Drs. Wm. Pepper and James Tyson, Pennsylvania; Christopher Johnson, Maryland; John C. Dalton and Austin Flint, Jr., New York, and J. S. Billings, U.S.A.

MEDICAL COLLEGE ADVERTISING.

Dr. Atwood, of St. Louis, offered a memorial from the St. Louis Medical Society, on the above subject, which criticised severely the questionable methods of medical colleges and schools in this direction.

It was referred to the Judicial Council.

Dr. D. Benjamin, of New Jersey, offered the following resolution, and supported it with a vigorous speech against medical colleges:

Resolved, That this Association earnestly urges upon all American medical colleges the necessity of elevating the standard of education, at least so far as to require preliminary examination and a three years' course, a registry of attendance, and practical demonstration of diagnostic skill.

The resolution gave rise to discussion, participated in by Dr. Brodie, of Michigan, who was willing to vote for the resolution if the end desired could be accomplished in that way, and Dr. Keller, of Arkansas, who thought that when preceptors furnished the medical schools good material, the schools, in turn, would give the profession educated medical men.

A motion was made to lay the resolution upon the table, and amid considerable confusion was put and declared carried.

Dr. M. H. Henry, of New York, said that every time this question had been brought before the Association it had been squelched in a most undignified manner.

Dr. Quimby raised the point of order that the negative vote had not been taken when the motion to table was declared carried.

The vote was taken again: ayes 76, nays 150.

Dr. Henry then supported the resolution with a vigorous and caustic speech, and did not shrink, though met by hissers, to whom he administered scalding reproof. The possession of a medical diploma obtained in this country he regarded as no evidence of qualification to either practise medicine or fill important and responsible medical positions.

Dr. Gibson supported the statement.

After some further random shots and calls of question, the resolution was adopted.

The President explained that the decision that the motion to lay upon the table was carried, the negative vote not having been taken was an oversight, and further added that he was in sympathy with the spirit of the resolution.

Dr. Packard, of Philadelphia, moved to take from the table certain amendments which had been put there at the meeting at St. Paul, pending the report of the Board of Trustees of the *Journal of the American Medical Association*, and that they be made the special order immediately after the delivery of the address of the Chairman of the Section in State Medicine on Thursday. Carried.

The Association then adjourned, after the reception of an invitation from Mr. Spencer W. Beard, Commissioner, to visit the place where artificial hatching of the shad was in progress.

Thursday, May 8th—Third Day.

The Association was called to order at 10 A.M. by the President, and prayer was offered by the Rev. William Paret.

Dr. Keller, of Arkansas, rose to a question of privilege, and asked that the Association change the report of the Secretary, so that the Nominating Committee would designate a time for the annual meeting, in accordance with amendment to by-laws offered by him and adopted at the annual meeting at Cleveland. Request granted.

The President appointed a committee to nominate

TRUSTEES FOR "JOURNAL" TO FILL VACANCIES

caused by those who retire this year. It was composed as follows: Drs. E. D. Ferguson, New York; W. T. Briggs, Tennessee; J. E. Reeves, West Virginia; J. W. Prewitt, Missouri; George Peck, U. S. N.; Thomas Russell, Missouri; D. W. Stormount, Kansas.

REPORT OF COMMITTEE TO MEMORIALIZE CONGRESS CONCERNING A FIREPROOF BUILDING FOR THE ARMY MUSEUM AND LIBRARY.

The bill had been introduced in Congress, but no action had been taken. The House has increased the annual appropriation to ten thousand dollars. Report

received—Committee continued: Drs. Austin Flint, T. G. Richardson, H. F. Campbell.

Dr. G. M. Sternberg offered the following resolution, which was adopted:

Resolved, That a committee of five be appointed by the President to petition Congress to make

SPECIAL APPROPRIATION FOR PROSECUTION OF SCIENTIFIC RESEARCHES RELATING TO CAUSES AND PREVENTION OF INFECTIOUS DISEASES,

money to be expended under the direction of the National Board of Health. The following gentlemen constituted the Committee: G. M. Sternberg, A. L. Gihon, I. Minis Hays, J. C. Dalton, and J. E. Reeves.

Dr. Keller offered resolutions relative to the

CREMATION OF THE DEAD

as a sanitary measure, which were, however, declared to belong to new business, and were referred accordingly.

REPORT OF THE COMMITTEE ON THE INTERNATIONAL MEDICAL CONGRESS.

The Committee unanimously favored carrying out the suggestion of the President, and recommended that a committee of seven be appointed, of which Dr. Austin Flint should be a member, whose duty should be to extend an invitation to the International Medical Congress at Copenhagen, to hold the next meeting in Washington, D. C., in 1887. It was also resolved that the Committee shall have power to elect its own officers, and in case the invitation is accepted, to act as an executive committee, to make all necessary and special arrangements for meeting, solicit funds, and draw from the treasury of the Association a sum not exceeding five hundred dollars, to defray preliminary expenses.

Adopted.

J. M. Toner, the Chairman of the Board of Trustees of *Journal*, reported, giving an account of the

FINANCIAL STANDING OF THE "JOURNAL,"

in which was incorporated the report of the editor. It appeared that

THE TOTAL INCOME FOR THE "JOURNAL" FOR THE FIRST YEAR

was eighteen thousand five hundred and forty-seven dollars and fifty cents; and, after all expenses had been paid, it was thought there would remain a balance of five hundred dollars at the end of the year. Dr. Davis believed that the financial condition of the *Journal* was such as to enable him, should he continue to be the editor for another year, to widen its scope of usefulness by engaging correspondents in more of the large cities, and to justify him in devoting more time to its editorial management.

Dr. Toner stated that the *Journal* had, in its opinion, been conducted with economy, ability, and judgment, the best interest of the profession being kept in view, and its dignity maintained with rare discretion; and it was confidently expected that the experience gained during the past year would enable the editor to greatly improve the *Journal*.

Dr. Packard, of Pennsylvania, offered a minority report, and stated that he had been given to understand that the financial condition of the *Journal* was straitened, and that for that reason the editor had not drawn any of his salary. In his opinion, the *Journal* did not approach in any way to the standard which the organ of the American Medical Association should reach. He was aware that there were difficulties in the way of starting a journal of this kind, but the

defects of the *Journal of the Association* had not become less marked during the nine months of its existence. The object of such a journal should be not simply to spread out the minutes of the Association over one year—it should be a wide awake, high-toned periodical in every respect, and not a sectional or partisan organ of the Association. Such a journal could be carried on only by a thoroughly trained corps of editors, and at a place where there was access to medical libraries, and where the best auxiliary work could be obtained, such work being liberally paid for. He therefore recommended that the resignation of Dr. Davis as editor be accepted, and that the publication of the *Journal* be transferred to some Eastern city, Washington, Philadelphia, or New York.

A motion was made that the minority report be laid upon the table. The President ruled that the majority report should first be acted upon. An appeal having been taken and sustained, the motion to lay the minority report on the table was acted upon. Dr. Beach, of Ohio, called for the ayes and nays. The motion to lay the minority report on the table was carried—ayes, 191 ; nays, 74. A motion to adopt the majority report was then put and carried.

OFFICERS FOR THE ENSUING YEAR.

The Committee on Nominations reported as follows, through its Chairman, Dr. Hooper : President, Henry F. Campbell, of Georgia ; First Vice-President, J. S. Lynch, of Maryland ; Second Vice-President, S. D. Mercer, of Nebraska ; Third Vice-President, J. W. Parsons, of New Hampshire ; Fourth Vice-President, H. C. Ghent, of Texas. The next meeting to be held in New Orleans, beginning the last Tuesday in April, 1885. Members of the Judicial Council : J. K. Bartlett, of Wisconsin ; J. H. Murphy, of Minnesota ; J. M. Toner, of the District of Columbia; William Brodie, of Michigan, H. D. Holton, of Vermont; A. B. Sloan, of Missouri; — Ulrich, of Pennsylvania ; and W. M. Beach, of Ohio. Secretary, W. B. Atkinson, of Pennsylvania ; Assistant Secretary, W. H. Watkins, of Louisiana ; Treasurer, R. J. Dunglison, of Pennsylvania ; Librarian, — Kleinsmidt, of the District of Columbia. Chairmen and Secretaries of Sections : Medicine, H. D. Didama, N. Y., G. M. Garland, Mass.; Obstetrics, R. S. Sutton, Pa., J. T. Jelks, Ark.; Ophthalmology and Otology, J. A. Whil, Va., Eugene Smith, Mich.; Surgery and Anatomy, Duncan Eve, Tenn., C. B. King, Pa. ; Diseases of Children, J. L. Pape, Texas, S. S. Adams, D. C.; State Medicine, E. W. Schauffler, Kan., J. N. McCormick, Ky.; Oral and Dental Surgery, A. W. Harlan, Ill., J. E. Mears, Pa. Trustees of the *Journal :* H. F. Campbell, Ga,, J. H. Packard, Pa., L. Connor, Mich. Chairman of the Committee on Necrology, J. M. Toner, D. C. Chairman of the Committee on State Medicine, J. A. Dibrell, Sr., Ark.

THE COMMITTEE ON METEOROLOGY.

Dr. N. S. Davis, Chairman of the Committee on Meteorological Conditions and their Relations to the Prevalence of Acute Diseases, read a report.

THE COLLECTIVE INVESTIGATION OF DISEASE.

Dr. Davis reported, with regard to the Collective Investigation of Disease Committee, that a proposition from a similar committee of the British Medical Association be accepted.

THE ADDRESS IN SURGERY.

By permission, the address was read by title only. It was on the effects and results of operations for the relief of gunshot wounds of the small intestine.

Friday, May 9th—Fourth Day.

The meeting was called to order by the President at 9.30 A.M.

VIVISECTION.

Dr. Dalton, chairman of the committee regarding experimentation on animals, offered the following :

Resolved, That this Association desires to express its earnest conviction that experimentation on animals is most useful to promote medical science, and can be intrusted only to members of the medical profession.

Resolved, That the committee be continued. Carried.

THE BOARD OF TRUSTEES.

A question arose whether nominations to fill vacancies in the Board of Trustees should be filled by the Special Committee on the Trustees or by the General Nominating Committee.

Dr. Ferguson, Chairman of the Special Committee, offered a resolution to the effect that the Committee approved of the nominations which had been made by the Nominating Committee—namely : Dr. Campbell, Dr. Packard and Dr. Connor. Carried.

Dr. Grisson made a motion declaring it to be the sense of the meeting that the *Journal* trustees should be nominated by the Nominating Committee. Carried.

COMMITTEE ON THE PRESIDENT'S ADDRESS.

This Committee reported through Dr. Davis, its Chairman, that no explanation regarding the code should be made without deliberation. Dr. Davis personally offered the following :

Whereas, Persistent misrepresentations have been and are being made concerning certain provisions of the Code of Ethics.

Resolved, That the President appoint a committee of five permanent members, to report at the next meeting of the Association such explanatory declarations on the subject as to the Committee may deem proper. Carried.

THE REGULATION OF IMMIGRATION.

Dr. Roberts moved the adoption of the following, which had been offered by Dr. Pratt, and adopted in the Section in State Medicine :

Resolved, That we earnestly urge upon Congress more efficient legislation on emigration, so as to exclude from our soil the defective classes of all nations.

Resolved, That the Chairman of the Section report this to the Association for adoption.

The President declared the resolutions out of order at present.

THE INTERNATIONAL MEDICAL CONGRESS.

The following permanent Committee on the International Medical Congress was appointed : Drs. Sayre, Johnson, Engelmann, Brown, Billings, and Campbell.

MEDICAL EDUCATION.

Dr. von Klein, of Ohio, gave notice of proposed amendments to the by-laws, and offered the following resolutions :

Resolved, That no person who shall hereafter graduate from a college where an educational test is not a prerequisite to admission shall be a delegate to the Association.

Resolved, That all delegates shall present as a part of their credentials a certificate, from the county or State society they represent, showing from what college and when they graduated, excepting delegates from the army and navy.

Dr. Pratt proposed an amendment providing that each section should nominate its own chairman and secretary.

Dr. Pratt moved that the publishers of the *Journal* be requested to publish in pamphlet form the minutes of the Association, with the constitution and by-laws, for distribution to members at the next session. Carried.

Dr. Brodie offered resolutions to facilitate the registration of delegates. Carried.

Dr. Robertson moved resolutions urging Congress to provide for the Museum of Hygiene. Carried.

It was moved that the nominating committee be not allowed to nominate any of its own members. Laid over one year.

Dr. Robinson brought up Dr. Pratt's resolutions on defective immigrants, and moved to lay them on the table. Lost. The resolutions were then adopted.

The Chairmen of the Sections in Ophthalmology and Otology, Diseases of Children, and Oral and Dental Surgery read their addresses by title, and they were referred to the publication committee.

Dr. Toner, of the Committee on Necrology, reported that the notices of deceased members had been published during the year.

On motion, the secretaries of sections were allowed to report directly to the permanent secretary.

Dr. Franzoni offered resolutions that members should seek to obtain from their States laws elevating medical education. Adopted.

Dr. Seiler proposed an amendment to divide his section into two, namely: 1. Ophthalmology; 2. Otology, laryngology, and rhinology.

The Treasurer's report showed a balance of $2,212. On motion, the annual dues were continued at five dollars.

The Librarian's report was read in part.

Dr. Green, of Buffalo, offered resolutions urging Congress to provide for the completion of the third volume of the "Medical and Surgical History of the War of the Rebellion," and to issue a new edition of the entire work at cost Adopted.

Dr. Beach offered a resolution urging Congress to take action to exterminate pleuro-pneumonia among cattle. Adopted.

The President-Elect was introduced by the President, and made appropriate remarks.

On motion of Dr. Brodie, it was resolved that the trustees of the *Journal* secure a stenographer at each meeting.

Dr. Von Klein offered resolutions abolishing the practice of opening the session with prayer. Lost unanimously.

A resolution to drape the next issue of the journal, in honor of the late Dr. Gross, was referred to the publication committee, with power.

A resolution against members signing their names to recommendations of proprietary medicines and mineral waters was carried.

A communication was read from the West Philadelphia Medical Society, with regard to the Code of Ethics, expressing the Society's adherence to it, and urging members to send pupils only to those colleges where the ethics of the code were maintained, which was referred to the Judicial Council.

Dr. F. E. Daniel, of Texas, offered a resolution urging that caustic potash, concentrated lye, and similar commercial preparations be rated as poisons. Carried.

A resolution from the St. Louis Medical Society was read, upon the subject of

advertising through the agency of medical colleges and college announcements and circulars. Referred to the Judicial Council.

Dr. Knott, of Texas, offered a resolution of respect to the memory of Dr. J. Marion Sims. This was, through mistake, not acted upon.

Dr. A. L. Gihon moved that a committee of five be appointed to consider the subject of erecting a monument to Dr. Benjamin Rush. Carried.

The following were next appointed as

DELEGATES ABROAD:

Drs. J. W. S. Gouley, E. C. Harwood, H. D. Didama, C. C. Wycoff, Fred Hyde, N. C. Husted, G. T. Stevens, and J. C. Hutchison, New York; S. C. Gordon and T. L. Estabrook, Maine; A. J. Jones, E. M. Dent and J. F. Gabriel, Virginia; C. E. Vaughn and H. O. Marcy, Massachusetts; J. V. Shoemaker, N. A Hobday and W. H. Daly, Pennsylvania; H. P. C. Wilson, Maryland; D. W. Prentiss, L. Friederich and S. C. Busey, District of Columbia; J. M. Browne, U. S. Navy; J. S. Billings, U. S. Navy; Edward Boerck, Missouri; T. J. Gallaher and A. M. Pollock, Pennsylvania; C. Deveny, Illinois; C. Johnson, Maryland; Austin Flint, New York; H. F. Campbell, Georgia. Delegates Canadian Medical Association, W. S. Tremaine and E. N. Bush, New York; W. Brodie and H. O. Walker, Michigan. British Science Association, W. Brodie.

Dr. Brodie, of Michigan, offered a resolution of general thanks to all committees, persons and institutions, who had extended courtesies to the Association. Carried.

Dr. Garcelon, of Maine, offered a resolution of thanks to the President, which was put by the Secretary and carried.

The Association then adjourned.

WEST TEXAS MEDICAL ASSOCIATION. April 9, 1884. Reported for GAILLARD'S MEDICAL JOURNAL by GEO. W. CHRISTIAN, M.D., San Antonio, Texas.

THE discussion was opened by Dr. Christian as follows:

SORE MOUTH OF NURSING WOMEN. ("FOLLICULAR STOMATITIS MATERNA" OF THE OLD AUTHORS.)

The first reference we find to this subject in the literature of this country was an article from Dr. E. Hale, which was published in the proceedings of the Massachusetts State Medical Association in 1830. Dr. Backus next contributed to the subject, and his paper appeared in the A. J. M. S., January, 1841. Numerous others appeared from different authors during the next few years succeeding, but lately I can find no reference through journal literature to the subject, and only mere references appear in the text-books.

The minor diseases of the mouth evidently have not until recently received careful attention from competent pathologists, as evinced by the meagre descriptions and confusions that occur in the references to be found.

That this is a separate and distinct disease, with a pathology of its own, I have serious doubts. That women while nursing should often suffer with aphthæ is quite probable. The extra tax upon her digestive apparatus during lactation must frequently result in digestive derangements, which are the commonest causes of aphthæ. But the mere fact of a woman's nursing, I don't think (while it has its etiological value) justifies a separate name. The description and symptoms of the disease, as given by Drs. Hale and Backus, answer quite well for the follicular form of aphthæ of the old authors, and from all the facts, as I have been able to glean them, I must record the disease as described by them as nothing more nor less. But this form of aphthæ is not confined to nursing or preg-

nant women alone, and therefore I can see no good reason why we should endow it with the name "nursing sore mouth." I can even comprehend why a woman while nursing would be more subject to this form of aphthæ than under other circumstances, and still fail to see in it a specific disease. If they are distinct in their pathology, they must indeed be very rare, or else I am quite dull of comprehension, never having been able to recognize any difference at the bedside, and would, in my present state of ignorance, were I to see nothing but the mouth, be as apt to call an aphtha of the husband nursing sore mouth as that of the wife, an error which, if not fatal to the patient, would likely be to the future prospects of the physician.

Aphthæ sometimes develop in the course of stomatitis, but oftener independent of it, though with the former we always have a circumscribed development of the latter.

The disease is often not recognized until one or more painful white spots are visible on the tongue, lips or sides of the jaws. But if recognized at an earlier stage, will be seen to be in the form of small, hard, white, elevated points, which generally soon develop into small, oval, whitish ulcers, with raised edges and inflamed bases. Salivation is much increased, and if the ulcers are numerous, mastication is often impossible from the intense pain which is excited by the contact of food. These ulcers generally heal in three or four days, and may not return, but are often followed by others of like character. Sometimes they show but little tendency to heal, and spread in different directions, forming an irregular ulcer, which is sometimes very obstinate, taxing all the resources of the physician and endurance of the patient.

Aphthæ are more frequent in early life, though no one is exempt from them. Some of the worst and most intractable cases that I ever saw were in adults. It generally follows low fevers or other diseases which produce exhaustion, and is not often seen except in debilitated subjects. It spreads in some instances to the fauces palate and even to the stomach, and may produce death by the exhaustion which sometimes results from the diarrhæa which sets in, and the loss of food from inability to take it. This latter, though, is a rare result, the trouble generally terminating favorably in a few days under proper medical and hygienic management.

The causes of the disease are local and constitutional. Caustics and irritants, such as tobacco, alcohol, spices, bad teeth, hot and cold food and drinks are the most prominent among the local causes; while fevers, dyspepsia, diarrhœa, excessive lactation and want of wholesome food are the principal constitutional causes. Low, damp places and bad ventilation, too, predispose to the disease by weakening the general vitality.

The diagnosis is easy. Thrush, diphtheria and all diseases with a membranous exudation, are not liable to be mistaken for aphthæ, nor aphthæ for them. From stomatitis its recognition is easy by the difference in the seat and the absence of fetor, which always accompanies the latter and never the former.

The pathology consists in a local destruction of the epithelial layer of the mucous membrane, hyperæmia and infiltration of the membrane proper and subcellular tissue, or of inflammation of the mucous follicles in the follicular form of the disease.

The treatment is local and systemic. Chlorate of potas. is held in highest esteem as a local remedy, but in my hands has not been as efficient as sulphate of copper, and equally as painful. I employ the copper in solid stick, and rarely if ever have I had to touch the same spot the second time. Many other astringents have been used with satisfaction. Frequently washing the mouth with warm alkaline water is valuable, not only in allaying the pain, but, by insuring cleanliness, it aids very much the cure. Internally, tonics and alteratives, with nutritious food. Sunlight, pure air and cleanliness should be insisted upon, too,

in conjunction with other measures. The intelligent physician will select such a course as is best adapted to any particular case. Numerous remedies have been lauded as specifics by narrow-minded enthusiasts, who had but little conception of the etiology or pathology of this or any other disease. The specific remedies for this, as for other diseases, are not to be trusted. They are only the outgrowth of ignorance, or bigotry, or of both.

Aphthæ ordinarily gives us no trouble. A simple astringent wash, attention to the secretions, a bitter tonic and a few days' time completes the cure; but once in awhile a case will arise which defies all of our resources. We go from one lauded specific to another only to reap disappointment, forcing upon us the conclusion that disease is an unknown quantity, and medicines of uncertain value.

Where an intractable case occurs in a nursing woman we should, after failing with a simple and judicious course of treatment, if the patient is in any danger, insist upon taking the child from the breast, after which such cases usually rapidly recover.

DISCUSSION.

Dr. B. E. Hadra.—As far as I am able to judge, I agree with Dr. Christian that, at the bedside, we are not able to distinguish the aphthæ of nursing women from the aphthæ of males or non-nursing women. Yet I believe that the disease is peculiar and depends upon bacteria, and that the microscope will yet demonstrate the special form of the microcosms upon which the disease depends. A recent case has led me to believe thus strongly, from the fact that I found the same aphthous-like patches in the vagina as in the mouth. We can readily see how, granting that the disease is fungoid, a woman would convey the disease from her mouth to vulva, nipple, etc., in the common act of moistening the fingers in the mouth and then applying them to the nipple, etc.

Dr. Geo. A. Cupples.—Nurses' sore mouth, as seen by me, does differ from aphthæ, and is easily recognized at the bedside. It only occurs on the dorsum of the tongue, and in patches which resemble psoriasis. I have had a patient who had three successive attacks with three different children. The children all had the same form of the disease. The mother always recovered promptly on weaning. Saw a child die of the disease by extension to stomach and bowels, which was verified by post-mortem. The mother died six or eight months afterwards with the same disease. She had an enlarged and waxy liver. The microscope would be the only means of differentiating the different forms of the disease.

Dr. Eliott.—I have seen a great deal of the disease (nurses' sore mouth) while practising in the valley of the Mississippi, and am the author of a paper on the subject. The disease affects all the mucous membranes, vagina, lungs, etc. Have seen nothing peculiar in the ulcers themselves by which I could distinguish this from other forms of aphthæ. It has never occurred to me except in broken-down constitutions. The gums would sometimes separate from the teeth, and I have seen them drop out of the mouth. The teeth were soft, having lost their proportion of phosphates. My patients all recovered on the hypophosphites of lime. Locally, have had best results from oxide of silver. The disease generally appeared before the birth of the child, but have been able to nurse through by the constant use of the hypophosphites.

I don't think that Dr. Hadra's theory, of conveying the disease by the finger in the act of moistening the nipple, tenable, from the fact that the disease often appears previous to birth.

Dr. Watts.—I have a case now which has proved refractory. The lady was confined of a still-born child, though there was a secretion of milk without nursing. The disease is of the follicular form, and has resisted, so far, local and constitutional treatment.

Dr. King.—We have all doubtless seen more or less of the disease. I have no positive knowledge of the cause. I think that Dr. Hadra is right, that the microscope is the only means by which we can arrive at a knowledge of its etiology and pathology. The treatment ought to be tonic and restorative. The form of which Dr. Cupples speaks is different from ordinary aphthæ, but what this difference is I am not able to state.

Dr. Hadra.—Dr. Eliott's remarks are very interesting, and may be true from a point of observation, and incorrect in attributing the recoveries to the systemic influences of the drugs. It is not just to infer the pathology simply from the results of treatment. Dr. Eliott's wonderful success may have been from the local effect of the drugs and not the systemic. We are in our infancy yet in a knowledge of the cause of disease. The recent discoveries of Koch in tuberculosis and cholera are startling, and open up new fields for investigation. I am a strong believer in the germ origin of many diseases.

Dr. Cupples.—We are just where we began. We seem not to have arrived at a distinct understanding of what nurses' sore mouth is. The cases referred to by Dr. Eliott were only a fungoid form of aphthæ. The low forms of fungus attack all broken-down subjects, not only in the animal but in the vegetable kingdom as well. The grape crop was often destroyed in portions of France in this way, and we were conscious of the ravages of fungus growths in our own country.

The disease, as I have seen it, does differ from aphthæ. It differs in appearance and in location: attacks only the dorsum of the tongue where the papillæ are the most prominent.

Dr. Christian's rejoinder.—If nurses' sore mouth is a distinct type of disease, I should be very happy to know its peculiar features. So far, Dr. Cupples seems to be the only one among us who has recognized in it a distinct form; but, as far as I know, his observations do not correspond with those who have written upon the subject. Dr. Eliott's theory is worthy of serious consideration. His experience agrees with mine, that the disease only attacks those broken down in health, and his success with the hypophosphites would strengthen his idea that this failure of the health was from an absence of the hypophosphite. I hope that others will try this mode of treatment, and reap the same brilliant results which have crowned his efforts.

Some Curious Mortality Statistics.—Dr. William Pratt, of London, in his address to young men, gives these facts: According to statistics, the married life is not only the purer, producing the minimum of evil-doers and criminals, but it is also by far the most healthy. Take the male sex, and it is seen that from twenty-five to thirty years of age, 1,000 married men furnish 6 deaths; 1,000 bachelors furnish 10 deaths; 1,000 widowers furnish 22 deaths. The figures, however, become very unfavorable if the marriage be contracted before twenty. Out of 8,000 young men married before twenty, their mortality has been found to be, before marriage, only 7 per 1,000; after marriage, 50 per 1,000. With respect to the female sex we find a similar advantage of marriage over celibacy, but on the same condition. If young girls be turned into wives before twenty a like mortality befalls them which befalls the other sex. Everywhere young married people from eighteen to twenty years of age die as fast as old people from sixty to seventy years of age. The common sense and common law of Western Europe have with perfect justice marked twenty-one as the age of maturity. After that epoch, however, marriage should be contracted as soon as practicable. It is the healthiest and the happiest life; the best for the individual and for the community.

SANITARY DEPARTMENT.

PHILADELPHIA'S WATER.—PHILADELPHIA, May 18.—Chief Engineer Ludlow, in his report to City Council, presents some startling facts in relation to the water supply of this city, his calculations and deductions being based upon data carefully collected by his surveying parties. He says that the Schuylkill River is the natural sewer for a population of 350,000 persons largely engaged in manufacturing, and whatever may be the varying judgments of physicists as to the power of a running stream to purge itself of contamination, it is very certain that the river itself has furnished the most convincing evidence of its inability to digest or dispose of the injurious matters discharged into it. A tabulated statement shows the principal sources of pollution. A total of 8,800,000 gallons of domestic sewage daily empties into the streams, and, at the same time, water-closet drainage, directly and indirectly, from a population of 17,222 persons. The water as it nears the city, where there is a daily consumption of 69,000,000 gallons, has been subjected to almost every sort of contamination. Poisonous chemicals, wool washings, slaughter-house offal, dyestuffs, thick pulpy waste from gas-works, and brewing refuse combine to pollute the streams. A delightful drink; and the doctors do nothing.

PAPER TOWELS FOR SURGICAL PURPOSES.—Dr. Roberts, of Philadelphia, has been using, with much satisfaction, Japanese paper handkerchiefs for drying wounds. Sponges are so seldom and with such difficulty perfectly cleansed after being once used, that they are never employed in the clinic. Ordinary cotton or linen towels are much preferable to sponges, but, if dirty, are liable to introduce septic material into wounds. The paper towels answer the same purpose as cotton ones, and are so cheap that they can be thrown away after being used. They cost from $6 to $7.50 a thousand. The cost of washing a large number of ordinary towels is thus avoided. The paper towels are scarcely suitable for drying hands, after washing, unless several towels are used at once, because the large amount of moisture on the hands soon saturates a single towel. For removing blood from wounds, a paper towel is crumpled up into a sort of ball, and then used as a sponge. Such balls absorb blood rapidly. The crude ornamental pictures, in color, on the towels, are of no advantage, nor are they, as far as known, any objection.

HOMES.—Custom, luxury, and fashion, as affecting the interior arrangements of dwellings, have gradually converted house drainage into a source of danger which does not properly belong to it as a hygienic element in a sanitary system. Before the art of construction of the purely mechanical arrangements which belong to house drainage was

brought to its present state of excellence, and, indeed, before the insidious dangers connected with it were discovered or understood, the fashion of placing the openings through which house refuse is discharged into the sewers within the very innermost recesses and most imperfectly ventilated parts of dwellings was introduced as a matter of convenience or so-called luxury. When the evil consequences of this began to be felt, remedies in the form of traps and plumbing devices were multiplied, until finally, after the inventions of more than a quarter of a century have been brought to bear on the subject, we are obliged to confess that the problem is not yet satisfactorily solved. While it is true that, through the progress of the mechanic arts and constant study, stimulated by sad experiences, there has been during the last few years a decided amelioration of evils which for a long time numbered victims by thousands, yet no system of construction or patent devices which has been, or probably will be, introduced can be pronounced perfectly and permanently safe, so long as the present custom continues of placing plumbing conveniences within the walls of living, and, above all, of sleeping rooms. Pipes will decay, traps will become unsealed, the water supply will occasionally be intermitted or suspended, drains will become foul or leak. And when we consider the impracticability of a constant supervision, especially in rented or tenement houses, by competent persons, and the cost of such supervision, so reluctantly borne even in case of the most flagrant defects—defects which usually announce themselves by the outbreak of disease, and perhaps by deaths—it is impossible not to feel that the system, as it is now generally practised, should be abandoned.

A Hospital with Circular Wards.—For some time past an attempt has been made to raise the funds needed to provide hospital accommodation for the town and district of Burnley, Lancashire. The plans approved of by the committee provide for the erection of a hospital with one story pavillion wards of the circular form, as suggested by Professor Marshall, President of the Royal College of Surgeons. Two of these wards are to be built at present, with an internal diameter of 60 feet, for the accommodation of twenty beds each.

The death-rate of Russia is the highest in Europe. This is attributed to the paucity of medical men and the habits of the rural population. According to late returns the average duration of life is only 26 years, and the mortality among infants is frightful. More than 60 per cent. of infants die before they reach their fifth year, and nearly 2,000,000 children perish every year. Of 8,000,000 boys, only 3,770,000 attain the age of military service—that is to say, their twenty-fifth year; and of these at least 1,000,000 are found, by reason of shortness of stature and weakness of body, to be unfit for military duties.

PHARMACY AND THERAPEUTICS.

A COMPARISON OF WEIGHTS, MEASURES, ETC., PREPARED BY REQUEST FOR CONVENIENCE OF READERS.

FRENCH WEIGHTS IN TROY WEIGHTS.

1 milligramme	equal to	1-65th	grain.
1 centigramme	"	1-6th	"
1 decigramme	"	1½	grains.
1 gramme	"	15	"
1 decagramme	"	150	"
1 hectogramme	"	1,465	"
1 kilogramme	"	14,720	"
1 myriagramme	"	145,824	"

FRENCH MEASURES OF LENGTH IN ENGLISH MEASURES OF LENGTH.

1 millimetre	equal to	1-1,000th	metre.
1 centimetre	"	1-100th	"
1 decimetre	"	1-10th	"
1 metre	"	39 37-100th	inches.
1 decametre	"	10	metres.
1 hectometre	"	100	"
1 kilometre	"	1,000	"
1 myriametre	"	10,000	"

FRENCH MEASURES OF CAPACITY IN ENGLISH MEASURES OF CAPACITY.

1 millitre	equal to	15	troy grains water.
1 centilitre	"	150	" "
1 decilitre	"	1,500	" "
1 litre	" (1 qt.)	15,000	" "
1 decalitre	"	150,000	" "
1 hectolitre	"	1,150,000	" "

NOTE.—1 grain troy is equal to 1 and 8-100ths grains in apothecary's weight.

TEMPERATURE AND WEIGHT.

1 lb. water at 60 deg. F.	equal to	79-100ths pint, or 6,067 22-100ths minims.
1 oz. " "	"	equal to 1 5-100ths fl. oz., or 505 60-100ths minims.
1 gr. " "	"	equal to 1 5-100ths minims.
1 fl. drachm water at 60 deg. F.		56 96-100ths grains.
1 fl. oz. "	"	455 69-100ths "
1 fl. gallon "	"	231 cubic inches.
1 fl. pint "	"	28 87-100 "

TEMPERATURES.

CENTIGRADE.—To convert Centigrade (C.) or Celsius to Fahrenheit—multiply by 9, divide by 5, and add 32. Thus 40 deg. C. multiplied by 9 equal 360 deg.; divide by 5, equal 72 deg.; add 32, equal 104 deg. F.

REAUMUR.—To convert Reaumur (R.) to Fahrenheit—multiply by 9, divide by 4, and add 32. Thus 40 deg. R. multiplied by 9 equal 360 deg.; divide by 4, equal 90; add 32 equal 112 deg. F.

PERCENTAGE OF ALCOHOL IN WINES, LIQUORS ALES, ETC.

Strong Port 25, Madeira 24, Sherry 19, Malaga 17, Brandy 53, Rum 53, Gin 51. Whiskey 52 to 54, Burgundy 14, Sauterne 14, Champagne 12 to 14, Tokaya 9, Rudesheimer 10, Catawba 8 to 10, Cider 6 to 9, Mead 7, Burton Ale 8, Scotch Ale 6, Brown Stout 6, Porter 4, Strong Claret 17, Chateau Latour 9, Hock 9 to 12, Lachryma Christi 19, Vin Ordinaire 10.

KOUMISS.—Koumiss made at home costs about fifteen cents per quart. The following directions are given for its manufacture: Fill a quart champagne bottle up to the neck with pure milk; add two tablespoonfuls of white sugar, after dissolving the same in a little water over a hot fire; add also a quarter of a two-cent cake of compressed yeast. Then tie the cork on the bottle securely, and shake the mixture well; place it in a room of the temperature of 50° to 95° Fahrenheit for six hours, and finally in the ice-box over night. Drink in such quantities as the stomach may require. It will be well to observe several important injunctions in preparing the koumiss, and they are: To be sure that the milk is pure; that the bottle is sound; that the yeast is fresh; to open the mixture in the morning with great care, on account of its effervescent properties; not to drink it at all if there is any curdle or thickening part resembling cheese, as this indicates that the fermentation has been prolonged beyond the proper time. Make it as you need to use it. The virtue of koumiss is that it refreshes and stimulates, with no after-reaction from its effects. It is often almost impossible to obtain good fresh koumiss, especially away from large towns. The above makes it possible for any physician to prescribe it.—*Chicago Rev.*

GELATINE BANDAGE, TRAUMATICINE, ETC.—Dr. Pick has been employing a glue varnish as a protective coating for cases of chronic eczema, psoriasis, etc. It consists simply of a strong solution of gelatine, or fine glue, painted over the affected parts with a brush, and made flexible by a little glycerine rubbed over its surface after it is dry. For the same purpose Professor Auspitz has proposed a chloroformic, ten per cent., solution of gutta percha. Both these substances are transparent, and permit the surface to be readily seen. If they should crack or peel they can be easily repaired.

THE PHYSIOLOGICAL ACTION OF COFFEE.—According to the result of experiments recently made by Messrs. Couty and Guimaraès to ascertain the precise

physiological action of coffee, that beverage is not a preventer of tissue-waste. The maintenance of nutrition is, no doubt, improved by its consumption, as Gubler asserted, but simply because it involves an increased assimilation of nitrogenous food through improving the appetite, when not taken in excess, and thereby encouraging its consumer to take nutritious food.—*British Medical Journal.*

ROOSEVELT (N. Y.) HOSPITAL FORMULÆ.—

SEDATIVES.

Chloral.

℞. Chloral hydrate..... grs. viiss.
Bromide potass..... grs. viiss.
Orange flower water.. ♏ xv.
Water, s. q..... ʒ j.
M. Dose, ʒ j.

Jim Jams.

℞. Bromide potass..... grs. xxx.
Hydrat. chloral..... grs. xv.
Magend. sol. morph... ♏ v.
Syr. orange peel ..... ʒ j.
Water, s. q..... ʒ iv.
M. Dose, ʒ ss, as directed.

Mixed Bromide.

℞. Bromide sodium..... grs. x.
Bromide potass..... grs. xx.
Bromide ammon..... grs. x.
Syr. orange peel ..... ʒ ij.
Water s. q..... ʒ iv.
M. Dose, ʒ iv.

Bromide Solution.

℞. Bromide sol..... grs. xv.
Water..... ʒ j.
M. Dose, ʒ j.

Hysteria.

℞. Tinct. castor ..... ♏ vi.
Comp. tinct. valer., s. q. ʒ j.
Dil. phosphoric acid.. ♏ vi.
M. Dose, ʒ j.

Elixir of Guarana.

℞. Fl. ex. guarana ..... ♏ x.
Simple elixir, s. q.... ʒ j.

DIURETICS.

Buchu Mixture.

℞. Fl. ex. buchu..... ʒ ss.
Tinct. hyoscyam..... ʒ ss.
Sol. citrat. potass.... ʒ j.
M. Dose, ʒ ij.

Digitalis.

℞. Infus. digitalis..... ʒ j.
Acet. potass..... grs. xv.
Water, s. q..... ʒ ij.
M. Dose, ʒ ij.

ANTI-SYPHILITIC MIXTURES.

Mixed Treatment.

℞. Bichlorid. mercury... gr. 1-32.
Iodide potassium.... grs. x.
Comp. syr. sarsap.... ʒ ss.
Water, s. q..... ʒ ij.
M. Dose, ʒ ij.

Iodide Potassium.

℞. Iodide potassium .... grs. x.
Comp. syr. sarsap.... ♏ xv.
Water, s. q..... ʒ j.
M. Dose, ʒ j.

Saturated Sol. Iodide Potassium.

1—1.

ʒ j sol. represents ʒ j iod. potass.

ROCK AND RYE.—Dr. E. H. Bartley, chemist to the Brooklyn Board of Health, has made a report to that body in regard to the "rock-and-rye drops," which, although flavored with fusel oil, are constantly sold at the candy shops in large quantities to school children, and in it he says: In some of these candies the oil is not thoroughly mixed or diffused, and occasionally a good-sized cavity is filled with fusel oil. Estimating that a child may buy and eat a half pound of this candy, containing 5.7 grains of the oil, it will be seen that it will take the maximum dose for an adult, and will probably experience distinct symptoms, such as dizziness, headache, or even slight intoxication.

A New Treatment for Neuralgia—Hyperosmic Acid.—The latest agent introduced for the relief of neuralgia is a 1 per cent. solution of hyperosmic acid, administered by subcutaneous injection. It has been employed in Billroth's clinic in a few cases. One of the patients had been a martyr to sciatica for years, and had tried innumerable remedies, including the application of electricity no fewer than 200 times, while for a whole year he had adopted vegetarianism. Billroth injected the above remedy between the tuber ischii and trochanter, and within a day or two the pain was greatly relieved, and eventually quite disappeared. It would be rash to conclude too much from these results, in the face of the intractability of neuralgia to medication, but if it really prove to be as efficacious as considered, hyperosmic acid will be a therapeutic agent of no mean value.

The Amount of Iodine in Cod-Liver Oil.—Mr. Edward C. Stanford has just gone over this much-contested ground, and reached the conclusion that the amount of iodine has heretofore been very much overestimated. The mean of six samples in his hands, and carefully examined, was 0.000322.

Jane's Expectorant is said to consist of:

Tartar emetic	gr. iv.	Tincture of lobelia	ʒi.
Spirit of camphor	ʒi.	Syrup of tolu	ʒ1½
Ipecac	gr. iv.	Tincture of digitalis	ʒi.
Tincture of opium	ʒij.	Syrup of squills	ʒij.

—*New Remedies.*

Prof. Rogers has demonstrated the folly of decolorizing solutions of iodine, the reaction causing really the formation of an iodide and iodate.

Hunyadi Janos.—H. Fresenius analyzed the Hunyadi Janos water and found it to contain the following salts:

Sodium sulphate	19.662123
Magnesium sulphate	18.449451
Calcium sulphate	1.321953
Potassium sulphate	0.132943
Sodium chloride	1.424068
Magnesium carbonate	0.731347
Iron carbonate	0.002059
Silica	0.011218
Carbonic acid (semi-combined)	0.383868
" " free	0.012683
Lithium	Traces.
Strontium	"
Nitric acid	"
Boracic acid	"
Bromine and iodine	"
Nitrogen	"
Phosphoric acid	"

The carbonates are calculated as simple monocarbonates, and all the salts are anhydrous, *i. e.*, without water of crystallization. The cathartic properties are due to the salts of magnesia and sulphate of soda.

Antagonism of Chloral and Strychnia.—In a communication to the *Texas Courier-Record of Medicine*, Dr. W. B. Brooks reports a case of accidental strychnia poisoning successfully treated with chloral, the remarkable feature

being that, a few months later, the same patient took an overdose of chloral, which rendered her perfectly comatose; but, under the hypodermic use of strychnia, she rallied soon.

Explosive Mixture.—In Manchester, Eng., a druggist dispensed "three pennyworth of quicksilver and three pennyworth of aqua fortis" to a man who wished to mix them to make some sort of an ointment. The man had bought these articles before, but they had always been put up separately. On this occasion they were put in the same bottle, which the man placed in his breast pocket, and left the shop. Very soon the bottle exploded, burning his face and eyes so seriously that he died at the Manchester Eye Hospital.

REVIEWS.

Shakespeare as a Physician. By J. Portman Chesney, M.D., of St. Joseph, Mo. Published by J. H. Chambers & Co., St. Louis. Price, $2.25.

This work is the result of great and most fatiguing labor. There is nothing however original in it, and the whole literary mass was evidently put together very much as a child would put together the elements of a Chinese puzzle; or, as a boy would make a map, by placing in juxtaposition the different sectional parts which are required to create the whole. There is, however, this great difference to be borne in mind, that whereas the child bought or had given to him the Chinese puzzle, or the map, the author of this book was compelled to go to Shakespeare for the very numerous extracts which are required to make up his book.

He seemed desirous of putting together all extracts from the great master which in any manner related to medicine; and it is astonishing to see that he found extracts to represent most of the branches of medical science—obstetrics, neurology, psychology, pharmacology, dermatology, chirurgery, organology (?), with many miscellaneous articles; and while it is true that the Immortal Bard is made to appear as knowing a little on a great many medical matters, and not much on any one, still it is he who is to be blamed for this, and not his devoted admirer and ingenious copyist.

It is simply curious to see in this book how often Shakespeare speaks on medical subjects, and though what he says in this connection has not the least professional, or even scientific value, still it is evident that if he knew nothing of what he wrote of medicine, he at least, like many others, was under the impression that he was quite profound in his knowledge of such subjects.

The author has offered many comments on the different subjects presented, but these do not add to the value of the work. His style is often bad; the words used being drawn largely from vulgar, and not from classical sources as would have been especially appropriate in such a work. He is a materialist of a very decided character, and while he is not, on this account, properly the subject of public criticism, it is to be regretted that such views are causelessly and inappropriately interjected into the text of this very curious compilation.

The book is well printed, and the paper used by the publisher is good; the illustrations are, however, very poor and coarse, and ought to be carefully corrected in time for the next edition. The illustration of Lady Macbeth murdering the sleeping Duncan is particularly bad and amusing; no one could have slept on such a couch, and on any couch sleep in such a posture would have been impossible. Indeed, had the Thane of Cawdor given to his royal guest such a couch, it is safe to say the murder would never have occurred. It may be an artistic license to present Lady Macbeth plunging a dagger into the bosom of her sleeping guest, but as the murder was perpetrated by her husband, the necessity for this very bad cut is not especially apparent.

Elementary Principles of Electro-Therapeutics for the Use of Physicians and Students. By C. M. Haynes, M.D. Chicago: McIntosh Galvanic and Faradic Battery Co., 192 Jackson street, Chicago, Ill. Pp. 420, with 125 illustrations. Price, $2.

This work possesses many merits. It is devoid of theories. It is so simple as to be almost elementary in style. The diction is clear and concise. There is no "padding" in the shape of useless extracts. It refers to over forty authors, and gives their names. It has a copious glossary, giving the meaning of all technical terms and phrases. It shows what is magnetism, galvanism, Franklinism and Faradism, and gives their specific principles and effects.

It is a good book for all who wish to be taught *ab initio;* at the same time it is very useful to the practitioner who is most interested in electro-therapeutics, and desires plain, intelligible and reliable guidance. While very little space is given to the description of batteries, an evil in almost all such works, great care is bestowed on the methods of keeping batteries in working order, a matter of great moment to the physician. The author has succeeded in giving to the profession what is much needed—a simple, intelligible and reliable guide in the therapeutics of electricities, with a clear and concise description of the different kinds of electricity, and the methods of their clinical application. This work is therefore recommended to the profession.

President's Annual Address Before Texas State Medical Association, April, 1884. By A. P. Brown, M.D., Jefferson, Texas.

This is a very creditable effort to show the rapid advance of medicine and the names of those who, in its various periods, have done most to secure its triumphs and progress. The address manifests not only an excellent familiarity with medical literature and history, but also, what is not usual, a conspicuous familiarity with collateral sciences and their classic records.

The author is incorrect, however, when he says of Ephraim McDowell: "No school *suggested* to McDowell to do and to dare the grand operation by which thousands of lovely women now live to bless his memory." This is a very common error, but it is one, nevertheless. It is certainly beyond a doubt that the operation which McDowell first performed was suggested to him when a student at Edinburgh, by his preceptor, Dr. Bell, of that city. As a matter of record, this ought to be generally known, and is therefore mentioned here for this purpose, and not from any disposition to useless criticism.

THE PHYSICIAN AND HIS RELATION TO THE PROFESSION AND TO THE PATIENT. By JOHN BLANKINSHIP, M.D. An Address Delivered by Him, as the Retiring President of the Blount County Medical Society, April 7th, 1884.

All are familiar with the hackneyed manner in which this subject is presented in the Code of Ethics. The author of this address avoids these old methods, and goes to past and contemporaneous literature to show the argument necessary to elucidate his theme. He evinces careful thought in this, and very creditable familiarity with medical literature. He gives the names of many of the most earnest laborers in the medical field, and bestows upon them enthusiastic praise for their share in the medical harvest. The errors due to careless proof reading are numerous—Groose for Gross; Pancost for Pancoast; Sayer for Sayre; Mach for Bache; Beatty for Battey; Versalius for Vesalius; Petolemaic for Ptolemaic, etc. This is to be regretted.

VETERINARY MEDICINE AND SURGERY IN DISEASES AND INJURIES OF THE HORSE. Compiled from standard and modern authorities, and edited by J. O. KIRBY. Illustrated by four colored plates and 106 wood engravings. New York: Wm. Wood & Co. Pp. 332.

This is an excellent book. Every doctor who is good for anything loves his horses, and wishes, when these need treatment, the very best advice. This work gives what is needed, and will be therefore prized, and justly prized, by the profession. It is a friend both to the horse and his owner.

NOTE.—The remainder of the matter, etc., of this department, is reserved for the July number.—ED.

INTERESTING RESOLUTIONS.—The following resolutions were recently adopted by the Trigg County (Ky.) Medical Society, and I send them to GAILLARD'S MEDICAL JOURNAL for publication, by the request of the Society. J. W. CRENSHAW, Secretary, Cadiz, Ky., May 30, 1884:

Whereas, There has recently been some diversity of opinion and some disturbance amongst the members of the medical profession, especially in New York, in regard to the Code of Ethics of the American Medical Association, and as we deem it the duty of every member of the Profession to express his views in reference to said Code,

Therefore be it resolved: That in our opinion each County Society is subordinate to its State Society, and each State Society to the National Association, which alone at its regular meetings, in accordance with its prescribed forms, is authorized to make changes in its Code of Ethics, and consequently each County and State Society, so long as it claims connection with and representation in the National Association, should require its members to observe the Code of Ethics of the National Association.

Resolved, That whilst we do not claim perfection for the present Code of the American Medical Association, we do heartily endorse the provision in it in regard to consultations—the one which has caused the disturbance—and pledge ourselves to *observe* and *enforce it* and all other provisions of the Code, until changed by the National Association itself.

MISCELLANEOUS.

The Late Charles Darwin.—Under the domination of a many-sided, sensitive, and highly-strung nervous system, the health of the late Charles Darwin was always delicate, and often seriously impaired. For many years he was a sufferer from catarrhal dyspepsia; later, he suffered from various irregular manifestations of a gouty constitution, such as eczema, vaso-motor nerve-storms, vertigo, and other disorders of sensation. Nevertheless, by means of great care in diet, exercise, and regularity of sleep, he managed to keep himself in sufficiently good order for almost continual work of the highest kind. He became subject to attacks of palpitation, with irregularity of the heart's action, occasionally accompanied by pain in the chest spreading to the arms. Later it was found that the heart and greater bloodvessels were degenerating. The anginal attacks became more frequent, and signs of heart-failure more serious; and it was, as we understand, in one of these attacks that the greatest naturalist expired.—*British Medical Journal.*

Decalcified Bone Drainage Tubes.—Prof. Gross gives the following directions for making decalcified drainage-tubes: Procure the femora and tibiæ of a chicken or turkey, take off the periosteum, and place the bones in 16⅔ per cent. solution of official hydrochloric acid until they become soft; then cut off the ends and force out the endosteum; replace in the hydrochloric acid solution until they become very soft; fill them with horse-hairs, which must be removed if pus forms, as they will not allow it to pass. However, he recommends removing the bone tube in twenty-four hours, as it can only be absorbed by granulations, which render union by first intention out of the question.—*College and Clinical Record.*

An Aged Mother and a Heroic Young Husband.—M. A. Cachot, M.D., of San Francisco, in the *Medical Reporter* of January 19, 1884, informs us of a woman giving birth to a child when forty-eight years of age. It also quotes from the *British Medical Journal* the reports of women fifty years of age giving birth to living children. During my term as resident physician to St. Mary's Hospital, in this city, I delivered a Canadian woman of her first child when fifty-three years of age. The labor was very severe, and after forty-eight hours I delivered her with forceps of a large living child. She was married at 52; menstruation had ceased at 47. Her husband was 24. A year afterwards she had another child.

Artificial Vaccine Lymph.—M. Quist, of Helsingfors, has recently made some very interesting experiments with vaccine lymph, and has come to the conclusion that the micrococcus, to which the fluid owes its activity, can be made to multiply at will without losing its power. He placed a fragment of pustule in a liquid prepared by mixing blood-serum with glycerine, and adding a small quantity of carbonate of potash (1 to 900). The fluid was kept under a glass cover at the temperature of the room. After a few days, it contained numerous micrococci, and could be used with success for inoculations; it did not lose its activity after being kept for three weeks in a sealed tube. Revaccination with fresh lymph gave no result in a child previously inoculated with artificial lymph.

The Exact Value of the Electrolytic Method.—In a paper read before the American Academy of Medicine on the above-named subject (*Med. Record*, October 13), the author, Dr. A. D. Rockwell, formulated the following conclu-

sions: 1. The success met with in the treatment of malignant tumors is generally but trivial. In epithelioma, however, when superficial and easily reached, success may be had. 2. The electrolysis of *intramural* fibroids often reduces the size somewhat, and gives great relief. 3. For erectile and small cystic tumors electrolysis is a specific. 4. Goitres, if small and soft, may be reduced in size, even by external applications. Even when hard, electrolysis may be beneficial, but the results are variable. 5. Hairs can be permanently removed. 6. In many cases of stricture relief or cure can be obtained by electrolysis, but experience is not sufficient to speak of its value positively.

Localization of Articulate Speech.—At the meeting of the French Academy of Medicine, held December 12, 1883, Dr. Bilot presented a memoir on the seat and direction of the capsular radiations whose function is concerned in the transmission of speech. The author believes that, according to his researches, the opinion of Bouillaud, who accorded no more importance in this connection to one frontal lobe than to the other, is more nearly correct than that of Dax and Broca, according to whom the left side alone is functionally concerned with articulated language. If the frontal lobe is not, strictly speaking, the governing organ of speech, it nevertheless contains the agents charged with its transmission. The memoir was referred to a commission, composed of MM. Vulpian and Mathias Duval.—*Gazette Hebdomadaire.*

New Treatment of Fibroids of the Uterus.—Mr. Knowsley Thornton, of the Samaritan Hospital, London, Eng., has successfully ligated the uterine and ovarian arteries in cases of fibroids of the uterus. The results are reported to have been excellent, and promise completely to supplant hysterectomy. We are reminded that Dr. Cattermole, of London, Ont., suggested this operation in certain forms of utero-ovarian tumors in the *Canada Lancet* for November, 1880. It is somewhat gratifying to learn that a suggestion emanating from one of our distinguished Canadian confrères has been successfully carried into effect.—*Canada Lancet.*

The *London Medical News* relates an amusing instance in which a candidate was treated with unusual consideration by his examiners. Requested by one of the latter to cut down on and tie the subclavian artery, the candidate did as directed, but could not at once find the vessel. Irritated, seemingly by his failure, the examiner urged him to "Pick it up, sir; there it is, right under your nose," and on the candidate mildly suggesting that this particular structure was a cord of the brachial plexus, the second examiner present, in order to prove the ignorance of a mind which could dictate such absurdity, lifted and divided—a *nerve.* Examiner No. 1 then at once repudiated having called this the artery, which, he affirmed, was another adjacent structure. Proceeding, therefore, to raise it and cut it through, he exhibited it in commencing triumph, which quickly collapsed as *another nerve* appeared in section. Curiously enough, tea was forthcoming soon after for this particular candidate.

Penetration of Vertebral Canal by a Hair-Pin, Causing Traumatic Meningitis.—A young girl, in taking off her hat, forced a hair-pin into her neck, which apparently wounded the spinal cord, as there was, at once, momentary motor paralysis of the side opposite to the injury; but sensory troubles of the same side, continuing for five days; loss of consciousness, vomiting, vertigo; marked pains and stiffness of the nucha up to the third day. Such were the symptoms upon which was based a diagnosis of traumatic spinal meningitis by Dr. Viry, who reports the case in the *J. de Med. et de Chir.* A month afterward, a complete cure had followed.—*Rév. de Ther.*

THE MEDICAL ASSOCIATION OF THE STATE OF ALABAMA.—At the annual meeting of this association at Selma, Ala., April 9, 1884, Dr. W. O. Baldwin, of Montgomery, Ala., introduced the following resolutions, which were unanimously adopted:

Resolved: First.—That the members of the Medical Association of the State of Alabama have watched with deep interest the progress of the struggle which for the past two years has been going on in the New York State Medical Society, between the advocates of the ancient and established ethics of the medical profession as embodied in the Code of Ethics of the American Medical Association, and heretofore recognized and observed by all physicians of reputable standing in all the countries of the civilized world on the one hand, and on the other hand the advocates of the so-called "New Code," or New York Code, which in effect proposes to degrade the medical profession by opening the way for the professional association with irregulars and charlatans.

Resolved: Second.—That all hope of the prevalence of wise and conservative counsels in the New York State Medical Society having been dissipated by its action at its recent session in Albany, no honorable course was left for the adherents of the established ethics except that which they have chosen to pursue, namely, to separate themselves from the demoralizing movement which they were unable to control, and to organize themselves into a new association for the maintenance of the honor and dignity of the profession in this State.

Resolved: Third.—That in doing this these men, Flint, Sr. and Flint, Jr., Gouley, Didama, Squibb, Rochester, Sayre, Fox and their associates, have earned for themselves the thanks of the medical profession of the whole country, and we extend to them our hearty congratulations and fraternal good wishes.

Resolved: Fourth.—That, in order to signalize still further our appreciation of their recent action, a copy of these resolutions, with the greetings of this association, be forwarded by our President to Dr. H. D. Didama, of Syracuse, the President-elect of the New York State Medical Association, wishing them prosperous fortunes and abundant success in the further development and fruition of their noble work.

Resolved: Fifth.—That a copy of these proceedings be also forwarded to the *Medical News* and to GAILLARD'S MEDICAL JOURNAL, with a request that they be published.

NOTE.—These resolutions were received too late for insertion in the May issue of this JOURNAL.—ED.

STATEN ISLAND DOCTORS.—The Richmond County Medical Society has called a special meeting to act upon a resolution to the effect that any member of the society shall be prohibited from attending any person who is indebted to any other member of the society when such member shall have received notice of such person's indebtedness to a fellow-member, unless the case be accompanied by a receipted bill or permit for attendance from the protesting physician, the cash in hand, or an order from a superintendent of the poor or a justice of the peace or other authority competent to make the order collectible. Penalties are prescribed for those who attend the people thus put on the doctors' black list. The physicians of Staten Island have signed a remonstrance against the action of the telephone company that recently bought out the telephone system on Staten Island, because the company has issued orders that hereafter no person can use the telephone of a subscriber to call a doctor, however urgent the case may be, without first paying a toll of 15 cents. As most of the doctors have telephones to facilitate quick communication with patients, they express indignation at the new plan.

MEDICAL NEWS.

RABIES.—M. Pasteur and his collaborators have announced to the French Academy of Sciences the fact that by inoculation they can render all dogs absolutely proof against the effects of rabies, in whatever way or quantity the virus may be administered.

DR. A. RANDOLPH MOTT, resident physician at the Riverside Hospital, was attacked by typhus fever, which he contracted in attending to his duties some weeks ago, and died May 6. He was 26 years old, and was born at Leesburg, Va., where his father, an eminent physician, resides. Dr. Mott was graduated from the University of Virginia in 1878, and came to this city, where he was appointed a physician without salary at the workhouse. From there he went to the Randall's Island Infant Hospital and Hart's Island Hospital. In 1881 he went to the Riverside Hospital as assistant to Dr. Chapin. He was lecturer on gynæcology at the Polyclynic Institute.

MAN, according to Mr. W. J. Knowles, must have taken up his residence in Ireland at a very early stage in the history of the world. Mr. Knowles has discovered flints at Lane and other places on the northeast coast of that country, some of which, he believes, show evident traces of human workmanship. One large chipped implement was found in what appeared to be true undisturbed boulder clay. There are other tools which Mr. Knowles has in his possession which seem to indicate that man has lived in Ireland long before the paleolithic period—during, in fact, the glacial epoch.

FRAUDULENT TEA.—Under the excellent law that was enacted by the Forty-seventh Congress, an expert inspector at this port has seized and condemned, in the last twelve months, 650,000 pounds of unwholesome and adulterated teas. The names of the importers to whom these teas were consigned are given to the public.

PROFESSOR J. B. DUMAS.—French exchanges announce that the death of this eminent chemist took place on the 11th of April, in the eighty-fourth year of his age.

A PRIVATE HOSPITAL FOR DISEASES OF THE EYE.—Dr. Thomas R. Pooley opened his private hospital at No. 107 Madison avenue in May. Complete preparations are made for the proper nursing and care of patients.

THE Medical Society of the State of Pennsylvania met at Philadelphia, May 14th, 15th and 16th, 1884. Sessions from 10 A. M. to 5 P.M., with intermission 1 P.M. to 2 P.M.

DAVID T. TAYLOE, M.D., of Washington, North Carolina, died on the 25th of March, 1884.

THE YELLOW-FEVER QUARANTINE.—The quarantine service has already been established at Ship Island and at Sapelo Sound, Ga., and it is announced that it will be put in operation at Cape Charles on the 15th June.

Dr. Marie Hasler and Dr. Sarah Stockton have been elected by the Marion County (Ind.) Medical Society delegates to the Indiana State Medical Society.

A New Journal of Ophthalmology.—The first number of the *American Journal of Ophthalmology*, dated April 15, 1884, is issued. It is published in St. Louis, and edited by Dr. Adolf Alt, of that city, in conjunction with an able corps of collaborators. The journal is to be issued in monthly numbers of thirty-two pages each.

The N. Y. County Medical Society has refused to endorse the bill introduced into the Legislature of New York to establish a College of Midwifery.

Dr. R. H. Gale died at New Liberty, Ky., on Friday, May 2d. The cause of his death was cancer of the stomach, a disease from which he had been suffering for several months. Dr. Gale was born in Owen County, Ky., in 1828.

The *Quinologist* was discontinued with the February number.

Resignations.—Prof. Alfred Stillé has resigned the chair of Materia Medica and Therapeutics in the University of Pennsylvania, after twenty years' incumbency. He was for several years one of the editorial corps of this Journal.

The *Medical Index* is the successor to the *Kansas and Missouri Valley Index* and the *New Medical Era and Sanitarian*. It is a monthly, two dollars per year. It is published in Kansas City, is well edited and neatly printed.

The first Londoner, according to the *Builder*, who introduced conduit water into his premises was a tradesman of Fleet street. This is how a record of 1478 sets forth the occurrence: "A wex chandler in Fleet street had by crafte perced a pipe of the condit withynne the ground and so conveied the water into his selar; wherefore he was judged to ride through the citie with a condit uppon his hedde," the city crier meanwhile preceding the criminal and proclaiming his offense.

Dr. James C. Green died at his home in Danville, Va., on April 1, 1884, after being confined to the house by serious illness for some time. By his death the profession sustains a great loss.

Dr. John M. Cuyler, of the Army.—Surgeon and Brevet Brigadier-General Cuyler died at his home, in Morristown, N. J., on Saturday, April 26th. He entered the army as an assistant surgeon in 1834.

Dr. Henry Latham, of Lynchburg, Va., died on April 12th, 1884, after having been confined to the house for several months from the effects of a paralytic stroke. He had been in active practice about forty years, and was nearly or quite seventy-seven years of age at the time of his death. He had received every number of this Journal from January, 1866.

The "Planet."—This monthly journal has been discontinued.

The new laboratory building for the Bellevue Hospital Medical College will be begun on the 7th of June, and it is expected that it will be completed late in the autumn. It is to consist of a front and rear section, connected with each other by a corridor. The front section will be devoted to laboratories, while the rear section will contain a large auditorium, to seat four hundred students, together with the museum and the library.

The corner-stone of the New York Cancer Hospital was laid on the 17th of May by the Rev. William F. Morgan, D.D., Rector of St. Thomas' Church. An address was delivered by Dr. William H. Draper, and Mr. John E. Parsons, President of the Board of Trustees, announced that the building about to be erected was the absolute gift of Mr. John Jacob Astor. He said that the fund of the institution now amounted altogether to $360,000, and that it owned twelve city lots of land in addition. The building, which is to be of pressed Philadelphia brick, will have a frontage of 120 feet on Eight avenue, and will extend 60 feet on One Hundred and Sixth street. It will be after the French renaissance style of architecture, and will consist of three circular pavilions connected by a central building.

The seventy-seventh annual commencement of the College of Physicians and Surgeons took place at Steinway Hall on May 13th, when Dr. John C. Dalton, President of the College, conferred the degree of M.D. on 105 graduates. Brief addresses were made by Dr. Dalton and President Barnard, of Columbia College, and the principal address to the class was delivered by the Rev. Howard Crosby, D.D.

The initial number of the *American Meteorological Journal*, published at Detroit, Mich., is at hand. This is the first American journal to be devoted to this subject. The first number contains several original communications, besides notes and translations.

Dr. W. B. Brooks, of Fort Worth, the junior editor of the *Texas Courier-Record of Medicine*, was married on the 21st of April to Miss Fannie L. Wilson, of the same city, *sic itur ad astra.*

A Summer Hospital for children, designed to accommodate about thirty patients, is in contemplation by the people of Rochester, to be built on the shore of Lake Ontario.

The Harvard Medical School.—Dr. Robert T. Edes has been appointed professor of clinical medicine, to succeed the late Dr. Calvin Ellis.

The *Archives of Pediatrics*, heretofore published by its editor, Dr. W. P. Watson, of Jersey City, is to be issued in the future from the New York office of Messrs. J. E. Potter & Co., of Philadelphia.

The Alligator Boy.—The last number of the *Journal of Cutaneous and Venereal Diseases* gives a lithographic picture of a case of *ichthyosis* in the person of a boy who has been exhibited as the alligator boy. Under the treatment of Dr. George H. Fox there was considerable improvement, cod-liver oil being applied externally, and iodide of iron internally.

MANITOBA MEDICAL COLLEGE.—The first session of the Manitoba Medical College was brought to a close by a grand dinner being given at the Douglass House, Winnipeg. About sixty invitations were issued, and all the leading physicians in the city besides gentlemen connected with the educational interests of Manitoba were present. During the past session eighteen students have enrolled their names on the college register, and a number of applications of second year men from Ann Arbor Medical School, Mich., also from the Toronto schools of medicine have been received, and there is every prospect of a very large attendance next session!

MENTHOL POINTS.—This new remedy for neuralgia, etc., has been introduced to the medical profession. Menthol, the crystalized camphor of Japanese oil of peppermint, is applied locally, and for its more convenient use is formed into small cone-shaped pencils mounted in boxwood handles, similar to nitrate of silver pencils. The mode of application is to gently rub the point over the painful part, when a slight prickling impression of burning will be produced, followed in the course of one or two minutes by a pleasantly cool sensation, and an entire alleviation of the pain.

A CASE is reported in which the Supreme Court held that when a doctor sold out his practice "in a city and its vicinity" that this space was included within ten miles of the city, or its corporate limits.

THE MORAL SHOW.—Speaking of the return of Gen. Henry S. Taylor, who has been visiting the insane asylums of Ohio, in company with Superintendent Gundry, of a Maryland asylum, the *Baltimore American* says that he found in the idiotic department of one of them the two children who for many years traveled with Barnum's circus as the great and *only genuine Aztec children.* He was told that the pseudo Aztecs were idiotic, who, before Barnum got them, were in the idiotic department of one of the Ohio asylums, and after they no longer proved a curiosity were returned.

MODERN PURITANS.—The divorce scandals in Rhode Island have occasioned the introduction in the Legislature of two proposed amendments to the divorce law of the State. One provides that the petitioner shall be a regularly domiciled inhabitant of Rhode Island, and must have resided at least two years in the Commonwealth prior to the filing of the petition, and the other stipulates that the Justices of the Supreme Court before whom the petitions are heard may compel testimony, of an oral character, to the effect that the party did not come to Rhode Island for the purpose of obtaining a divorce, and if such evidence be not forthcoming when required the petition cannot be granted.

MR. J. L. WOODS has given $150,000 for the erection of a new building for the old Cleveland Medical Society, which now goes under the name of the Medical Department of the Western Reserve University. The new building will go up on the site of the old one, at St. Clair and Erie streets. It will be four stories high, and measure 90 by 145 feet. There was much guessing as to the donor, some averring that the money was left by the late H. B. Hurlbut, while others credited it to Joseph Perkins. A sufficient endowment to keep the college running accompanies the gift.

Dr. S. D. Gross.—After the performance of a careful post-mortem examination, the remains of this distinguished physician were cremated at Washington, Pa., where the body of his wife was cremated a year ago.

The Tercentenary of the Edinburgh University.—The following are among those who, April 15th, received the honorary degree of LL.D.: Dr. Fordyce Barker, of New York; Dr. J. S. Billings, United States Army; Sir William Bowman, Bart.; Professor Chauveau, Lyons; Sir Andrew Clark, Bart.; Professor Erichsen; Professor H. Von Helmholtz, Berlin; Sir William Jenner, Bart.; Dr. Thomas Keith; Dr. H. Maudsley; Sir James Paget, Bart.; Prof. Virchow, Berlin.

Poison.—The chemist of the Sanitary Bureau has examined several hundred specimens of mustard, collected under the direction of Dr. Edson, and has submitted the results of his examination to the Boardof Health. Three specimens contained flour and were colored by the addition of naphthol yellow. Ten other specimens contained flour or *terra alba*, and in some cases there was only 35 per cent. of mustard. Naphthol yellow is an irritant poison.

Dr. Sanford B. Hunt.—Sanford B. Hunt, M.D., editor of the Newwark, N.J. *Advertiser*, died recently at his residence at Irvington, Essex County, after an illness of several weeks. Dr. Hunt was born Dec. 25, 1825, at Ithaca, N. Y., and was graduated from Willoughby College, Ohio, when 20 years of age. He subsequently removed to Buffalo, and was made Professor of Anatomy in the Buffalo Medical College, besides holding editorial positions on several local papers. At the breaking out of the war he volunteered his services, and was made Surgeon at Fortress Monroe. Afterwards he was attached to the medical staffs of various divisions, and was then made Surgeon-in-Chief of the Army of the Southwest, with head-quarters at New Orleans, where he remained until the close of the war. In 1866 he resumed editorial charge of the Newark *Advertiser*, where he remained until his death. He leaves a widow and one son.

Miss Clara Burton's Work.—New Orleans, La., April 18.—Miss Clara Burton, President of the Red Cross Society of America, arrived i n this city this evening on the steamer Mattie Belle. She has been distributing food and clothing to the destitute all along the river above, running up bayous, side streams, and into all out-of-the-way places. She is considerably sunburnt, very much worked down by the severe strain upon her, but she is in excellent health and spirits. The people of this city will tender her a reception to-morrow.

At the Fifty-ninth Commencement of the Jefferson Medical College, held March 29, the degree of M.D. was conferred upon 215 students.

Mr. W. H. Massey, of the Society of Telegraph Engineers, London, has strongly urged the introduction of a small engine and dynamo-electric machine on each locomotive, in order to supply incandescent lamps, by means of which he maintains, railroad carriages can be lighted "better and cheaper" than by gas-jets, and make the cars more pleasant and wholesome.

According to Dr. Billings, of 1,000,000 colored infants born (in Baltimore) one half will have perished before attaining the age of two years.

Dr. Ott has learned that the rattlesnake's tail makes sixty vibrations per second. It is a shocking waste of energy on the part of the snake, as ten vibrations would scare a man just as much.—*Boston Post.*

Modern Puritanism.—There are 177 applications for divorce to come before the May term of the Massachusetts Supreme Judicial Court in Boston, and all but 32 of them are uncontested.

The Texas State Medical Association at its meeting April 24, at Belton, elected Dr. H. C. Ghent president. An excellent selection.

U. S. Army Medical Officers.—The bill defining the titles and duties of army medical officers of the higher ranks has passed the Senate. Surgeons with the rank of Colonel are to be styled Assistant Surgeons-General, and those with the rank of Lieutenant-Colonel, Deputy Surgeons-General.

The Maryland Board of Health.—The Governor of Maryland has expressed the opinion to the Legislature that the State Board of Health has not produced results worth the money expended on it, suggesting that it might as well be done away with!

Obituary.—James Gettys M'Gready Ramsey, M.D.—The venerable Dr. J. G. M. Ramsey, President of the Tennessee State Historical Society, and author of "The Annals of Tennessee," who died peacefully at his home, near Knoxville, Friday night, April 11, was in his eighty-eighth year. He was eminent in letters and distinguished as an historian.

The New York Cancer Hospital is reported to have received a gift of $200,000 from Mr. John Jacob Astor, together with a number of smaller sums from others. Land has been bought for the purposes of the hospital in the vicinity of the Central Park, on Eighth avenue, and work will soon be begun on the buildings.

Southern Asia, the original home of cremation, is also the region where it is celebrated with the greatest pomp and splendor. In Siam, when any famous man is cremated, a magnificently decorated building is erected specially for the occasion, and vast sums are expended in making the whole spectacle as gorgeous as possible. The ceremonies observed at the cremation of the late Regent of Siam may serve as a fair specimen of those customary on such occasions. Immediately upon his death, in March, 1883, his remains were inclosed in a vast urn of costly material, several yards in height, which was placed in a large room opening upon the courtyard of his palace, which stands on a creek flowing into the river that traverses the capital. Bands of native priests, relieving each other in turn, kept repeating prayers night and day in the death-chamber, around which were displayed all the orders and decorations worn by the dead man in his lifetime. Twelve months after his death the urn and its contents were carried in state to a kind of temple erected for the purpose, where the cremation was performed in the presence of thousands of spectators, including the King himself and his entire Court.

Died, at Fort Madison, Iowa, at 3 p.m., Wednesday, April 23, Ella, wife of Dr. F. C. Roberts, aged 24 years, 3 months and 20 days.

In Memoriam.—Dr. Hillory Ryan was born in the State of Alabama, December 11th, 1822; died in Colorado City, Texas, May 1884.

EDITORIALS.

THE DISTINGUISHED DEAD.—In the past month two of the most distinguished of the medical profession in this country have been carried to their graves—Drs. Willard Parker and S. D. Gross. They had each passed beyond the period allotted to man—threescore years and ten; each had done a great work in life, and good work in the few last months of existence; each had distinguished himself in the same field, that of surgery, and each had been permitted to retain to the last his mental health and vigor. Each had commenced life in an obscure and humble field; each had to struggle and work for the acquirement of a respectable education, and each, gradually overcoming the overwhelming disadvantages of poverty and inadequate educational facilities, had arisen to a position of eminence and distinction. What, too, was remarkable is, that it could not be claimed for either of these heroes in the medical field that he had genius or talent. With not more than an average intellectual strength, the victories of each had been won by untiring application and ceaseless labor. There was not a vestige of originality in the methods or thoughts of either, and never any of that brightness of conception or brilliancy of execution to which mankind renders such prompt allegiance. Never to either was given that involuntary homage which is tendered to the acknowledged and indisputable leader. All that was won, and that was so well won, was secured by ceaseless industry, energy and fidelity.

At the first analyses of such lives, one is apt to involuntarily experience the chill of disappointment, that so much was done without the possession of much, and that behind all that was so beautiful and admirable there was none of that power which men call greatness. And yet there is, on this very account, more to give to true thinkers contentment and satisfaction. It shows what magnificent results can be achieved with powers possessed by the many and not by the few. Did the lessons of such lives teach the profession that great reputation can only be achieved by the possession of great powers, most men would shrink back with discouragement from the unequal struggle; but when, on the contrary, such lives show what exalted triumphs can be achieved by the possession of only average strength, all must feel strengthened and comforted in the daily struggle for efficiency and usefulness. Such lives and such deaths, such powers and such achievements, bring to mankind more beneficent and productive lessons than can possibly be acquired from the records of brilliant genius and overwhelming talent.

Longfellow has said that

> "Lives of great men all remind us
> We can make our lives sublime,
> And, departing, leave behind us
> Footprints on the sands of time."

This, however, is illogical and untrue; but the lives of these professional brethren teach us a really comforting lesson—that without being great, or with-

out having achieved greatness, the record left behind may be such as to stimulate all to the exercise of patient labor and ceaseless industry.

It is satisfactory, indeed, to know that each of these distinguished men looked with calmness and courage upon his approaching end, and that each had made with care and quietness every preparation for the final summons. The close of such lives conveys to every one the beneficent instruction to be ready for the last scene. It says to each reader : -

> "So live, that when thy summons comes to join
> The innumerable caravan, that moves
> To that mysterious realm, where each shall take
> His chamber, in the silent halls of death,
> Thou go not, like the quarry-slave, at night,
> Scourged to his dungeon, but, sustained and soothed
> By an unfaltering trust, approach thy grave,
> Like one that draws the drapery of his couch
> Around him, and lies down to pleasant dreams."

The American Medical Association.—The meeting at Washington was of average strength and interest. The arrangements were excellent, and are very creditable to the committee. The scientific value of the meeting was almost inappreciable ; the scientific work done very insignificant.

The President's address was temperate and useful. His defence of the status of the American physician was effective and appropriate, for there are constantly to be seen foolish birds befouling the home nest. His defence of the colleges was not duly appreciated, though he condemned what is condemnable, and gave due credit for all that is creditable. His calling attention to the fact that home preceptors and not the colleges are to be blamed for the defective grade of students was timely and just. In fact, every reader should remember this fact; it is a great and important one. As a rule, preceptors are idle, indolent, lazy and worthless. They give no time and no labor to their office students, and then blame the colleges for bad results. No mill, however perfect, could turn out good material from bad material sent to it. It is the profession, the preceptors, who most need censure and reformation in this connection. If they will send better students, the colleges will return them as accomplished and useful physicians.

The President's comments in regard to the time spent upon Greek and Latin are unexpected, injudicious and unjust. In the profession of medicine a student may graduate without knowing the Greek and Latin languages ; but to know his profession well, like knowing his own language well, a knowledge of these languages is indispensable. There is no study more important, more remunerative, or more useful.

The President's definition of "an irregular practitioner" is excellent, and should be remembered by every one ; every society should incorporate it amongst its records. This definition is as follows : "The voluntary assumption of a distinctive name, and the announcement to the Public that his medical practice is

based upon a distinctive system of medicine, opposed to legitimate medicine, constitutes an irregular practitioner, and one with whom consultation cannot be held." The address is useful and worthy of its author.

It is to be thankfully remembered that the Association paid such just and distinctive honors to Dr. Gross. It is more than marvelous, however, that it did positively nothing to honor the memory of Dr. J. Marion Sims. One would have said that such a blunder was impossible.

The officers elected were all worthy of the honors paid to them. Every one must rejoice over the election of Dr. H. F. Campbell to the presidency.

The motion of Dr. Cochrane, that a committee should not nominate its own members for office (though forbidden in parliamentary Bodies), was much needed, and is just and proper.

The papers read were not as numerous as usual. Those read by title only were numerous. The debates as published do not require notice; they were, however, far below mediocrity. The pet theory of the editor of the *Association Journal* to improve this by more foreign correspondents is a bad one. Every journal office in this country receives its foreign journals two or three times a week, or has a foreign mail delivered every two or three days. It receives thus prompt and comprehensive information of all that is being done in foreign capitals. His device is expensive and useless. It is one that afflicts every young journal. The foreign journals are, as an almost invariable rule, ahead of the foreign correspondents; for these foreign correspondents, the best of them, make up their letters from the foreign journals then *en route* West. Such correspondence is, as a rule, "flat stale, and unprofitable," unless, as is done by the Paris correspondent of this JOURNAL, facts and items not found in foreign journals are sent for publication.

The Washington meeting was fair. The next meeting at New Orleans will be of great interest, for it will be largely composed of members who, since "the rebellion" (as partisan history calls it), have been unable to journey to the far countries. May this meeting be the equal, in interest and value, of the last meeting there, in 1869.

THE "JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION."—At the recent meeting of the Association in Washington, Dr. Toner, Chairman of the Board of Trustees of the *Journal*, made a report. The report showed a surplus of $500 after the payment of all expenses. Before action was taken on this report, Dr. Packard, one of the *Journal* trustees, asked leave to present a minority report. This was read. It expressed dissatisfaction with the management of the official paper, and suggested that a trained and paid corps of editors be employed, and that the publication office be removed to Washington, Philadelphia or New York. Upon the question of laying on the table the minority report, a *viva voce* vote was not deemed satisfactory. When the vote was taken by yeas and nays, of 265 votes cast, 74 were cast against the present editorial management. This was, in a parliamentary or technical sense, a victory for the present management; but such a victory is ruinous to all concerned. It was in reality an overwhelming defeat, for it showed that nearly thirty per cent. of the delegates censured the

editorial management of the Association *Journal*, and had lost all confidence in it. As representing nearly one-third of the physicians of this country, this vote is disastrous indeed, for it foreshadows, under the present management, the ruin of the journal. A great work of this kind cannot succeed when nearly thirty per cent. of those who ought to support it, and would support it, under other circumstances, not only refuse their aid, but publicly record their official censure.

It is true that the editor very properly and naturally tendered his resignation, but it is almost passing belief that those to whom it was addressed refused to receive it, and that he is to remain in charge for another year, going out of office, it is promised, at that time!

Such a course on the part of the managers or trustees is mere childishness—it is even worse—it is recklessness. It is equivalent to the folly of those who, responsible for a leaking ship, threatened with destruction and distrusted by one-third of its owners, vote down the minority and send out such a vessel for a whole year's cruise.

It is certainly proper, when nearly one-third of the owners of a piece of property condemn publicly and officially the management of it, that those responsible for the management should be removed, or at least be suffered to withdraw. As to kindness and courtesy, etc., these have nothing whatever to do with this case. It is a simple piece of business—some one is to be paid by the owners of property to manage this property. He is officially declared by one-third of the owners to be incompetent; and instead of being withdrawn, the majority vote down one-third of the joint owners, and retain the incompetent manager.

Those who voted against the present editor of the Association *Journal* have as much kindly feeling and respect for him as do those who voted for him, but with all of such due respect and kindness, they thought and said that he was unfit for his position. He has been kept in office by the force of a majority.

It is certainly marvelous that, when condemned by the representatives of one-third of the supporters of the *Journal*, the present editor could be induced to retain his position, not for a year, but for an hour!

This JOURNAL has expressed its respect for that editor often and publicly, but it frankly condemns his past year's work, just as it frankly predicted and foreshadowed his unfitness for the position to which the *Journal* Committee (of which he was most singularly the chairman) elected him.

The truth is, that the trustees of the *Journal* ought to be men who have some little familiarity with the work over which they are placed in trust; but the fact is, that the past and present trustees, with some few exceptions, know about as much of the management of a journal as a Hottentot does of astronomy; not even as much; for these swarthy worthies at least know the variations of the chief of the solar system, and know when to prudently retire into a safe obscurity: a very proper knowledge. It is to be hoped that the appointments as trustees of the Association *Journal* will be, as a rule, confined to those who have at least some little knowledge of the matters entrusted to their care. If one were to see a blind pilot taking charge of a ship, he surely could not be more astounded or amused than to see with what quietness, and even assurance, gentlemen who know nothing whatever of journalism take in trust the only journal property of the

physicians of this country. What they have done with it is now history; what they will do with it is easy prophecy, unless some marvelous incident, some miracle, preserves the property confided to them.

Dr. Packard is entitled to the warm thanks of his brethren for the very unenviable but manly position which he has taken. If men had, as a rule, the courage to publicly express their convictions, and to act in accordance with them, he would have had a stronger support. He, at least, did his duty; though, like "the old guard," who did the same, he was "slaughtered at Waterloo." This *Journal* trustee had, however, a large following; for to elicit 74 votes of censure, in 265 votes cast, was at least a moral, if not a parliamentary victory.

THE "JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION."—It has been claimed by some that the criticisms of this JOURNAL upon the *Journal of the Association* were too severe. The following printed letters have been sent to this office. They were sent with this note, from a prominent physician:

DEAR DR. GAILLARD: If your just words expressed in the JOURNAL several months ago had been taken up by the medical press, this letter from Dr. Packard would have been unnecessary. Surely, prompt action will be taken at Washington to save the Association from continued shame.

1924 SPRUCE ST., PHILADELPHIA, April 2, 1884.

DEAR SIR: Your attention is respectfully requested to the following copy of a letter recently addressed by me to the President of the Board of Trustees of the *Journal of the American Medical Association*, which will probably explain itself. I think it of importance that the views therein contained should be considered prior to the coming meeting of the Association, and if there is any obscurity in them, or if you are in doubt about the facts, please notify me, and I will give you further information.

Respectfully yours,

JOHN H. PACKARD.

PHILADELPHIA, Feb., 1884.

J. M. TONER, M.D.,

DEAR SIR: Your favor of the 6th inst. came duly to hand, but I have delayed answering it because the matters concerned seemed to me to demand very careful consideration. This I have given them, and desire to lay my views before you, with the earnest request that you will not only give them your own attention, but submit them at the earliest opportunity to the other trustees for their judgment. Should it inconvenience you to have copies prepared, pray notify me, and I will have it done.

I feel constrained to enter a protest against the way in which the publication of the *Journal* is being carried on.

In the first place, I do not think we have the right to presume upon the indulgence of the editor as to the non-payment of his salary. We, as trustees, are placing the Association in a position of obligation to him which is in every way inexpedient. Should he die, his heirs would have a valid claim for the amount due him, and would no doubt present and urge it. It is unbusinesslike and irregular that the Association should be in debt, with or without the consent of the creditor, unless there is provision for his payment on demand. The

Association is thus actually in his power and under his control, which is all wrong, theoretically and practically. [Salary paid.—Ed.]

Secondly, if I rightly understand the accounts as submitted, the printing for the first quarter cost $3,152.98, about $48 per number *above* the estimate, while for the second quarter, according to your letter of the 6th February, the printing cost $2,348.24, or something less than $14 *below* the estimate. Perhaps the smaller amount paid may account for the excessively careless work especially noticeable in the numbers of the second quarter. I was convinced, at the time the estimates were presented to the Board of Trustees, and accepted by them, that they were too low, that the work could not be well done for the money, and it has not been well done.

Thirdly, contributors are not paid, nor is there any provision for paying them. All experience goes to show that without this no journal can be conducted on a sound basis.

Fourthly, no arrangement has been made, or at least there is no evidence of any such arrangement, for the systematic securing of a larger number of suitable advertisements. Here, again, experience shows that this must be one of the strong financial points of any such enterprise.

As to the literary and scientific management of the *Journal*, I regret to have to say it, but I did not think such work could be so badly done. There is no uniformity in the arrangement of the matter. It is full of typographical errors, and in several of the numbers the foot-notes are wholly misplaced, so as to produce utter confusion. One article, with a cut, published in the number for October 6, appears again in that for November 10. The *Journal* comes to me very irregularly, and scarcely a single number sent to me has been either whole or clean.

I cannot admit that the *Journal* has in any way approached near the standard of what it should be as the organ of the American Medical Association, or that it either has taken, or as at present conducted can take, such a position among medical journals as belongs to such an organ. I have not seen in it one editorial article of wide scope, calculated to advance the interests of the Association or of the profession at large, or anything to lead professional opinion upon any important question. If it has contained such material, it would give me pleasure to have it pointed out to me.

I have made these comments in no spirit of hostility to the *Journal* or to its editor, but from an earnest sense of my duty to the Association as one of its trustees. I have simply expressed my deliberate judgment, believing it to be correct and knowing it to be sincere. The grounds upon which it is based could readily be pointed out, did time and space permit, and I am ready to defend it whenever opportunity may offer. I regret most truly that I am compelled to find fault when I would gladly praise; but the real and complete success of this enterprise is too important an object to justify anything but candor and plain speaking.

Your obedient servant,

John H. Packard.

The Louisville Ky., Medical College.—In the May number of this Journal it was stated, that it was exceedingly improbable that the faculty of this college had during the past summer written the letters of solicitation to students, publicly (in many journals) attributed to it; and that the faculty "needed no defence." Since that article was written, the April number of the *Medical Herald*, of Louisville, Ky., has been received, and it contains "a supplement" written by Dr. E. Miller, Secretary of the Faculty and Professor of Surgery. Dr Miller says: "For the last session we did write to a number of

students, whose names had been furnished us by their friends, offering to take them at reduced rates, as we had a perfect right to do, as is done by every college in the land, and for the following good and sufficient reasons." The chief reason was that the Medical Department of the University of Louisville was, at the same time, endeavoring to get the students of this college away, by offering to take them for only the matriculation and graduation fees, "and did take some of them for nothing."

To those who know nothing of the polemics of medical college faculty life, this will not prove to be a good reason; but by others, who have an accurate conception of the trials and exasperations of such a life, it will be remembered that the error was not committed without great temptation; and that there was about it that human element which is so often found in the old Adam. The fact is that both institutions were wrong—equally wrong in this matter; and no one can justly censure one, without equally censuring the other: a course of action which it is hoped that the press and the profession will remember. So far, such has not been the case, but that it will be, none who know the justice of the press and of the profession can doubt.

That one college should be made the subject and object of bitter vituperation, however, because of an error committed under the influence of vicious and unfair partisan and local competition, is ungenerous and unjust; and it is believed that the press and the profession will take this view of the matter. It is the true view, and one which all must take who remember how easy it is to err under the aggravating circumstances described.

Dr. Miller furnishes an interesting and suggestive appendix to his supplement. It is in regard to the Louisville (Ky.) City Hospital.

In the last thirteen years this institution has accorded 54 positions to the medical college graduates of that city. These positions (of resident physicians) have been won by competitive public examinations; the Louisville Medical College graduates have won 28 of the 54 positions; the hospital college 22; and the Medical Department of the University of Louisville 4! The Louisville Medical College, as one of three competing colleges, has therefore won 52 per cent. of the positions offered—these figures are official. Dr. Miller says: "The resident graduates of the City Hospital are appointed from the various schools of the city, according to their standing in a competitive examination before a Board of Examiners appointed by the Charity Commissioners. The questions asked are written by various physicians and surgeons in different parts of the country; they are sent, sealed, to the mayor of the city, and are only opened on the day of examination. Each student is furnished with a copy. All of them are kept in the same room, under the supervision of a Commissioner, and the written answers are signed with a fictitious name. The papers are then opened before the Board of Examiners and their respective accuracy voted on in open ballot."

It is thus evident that, though the Faculty of the Louisville Medical College has been betrayed into writing such letters as the profession and the sober judgment of the Faculty cannot approve, this was done under the great aggravation of a most censurable course on the part of a rival local institution; and it is equally evident, when the true test of didactic work and efficiency in colleges is

made, that the Louisville Medical College has, for fifteen years, outstripped all of the medical colleges in Kentucky.

BEER.—The belief that beer is a healthful drink is constantly urged by manufacturers and lovers of this beverage, and physicians spread this delusion in many ways. It is not often that an unprejudiced person makes a careful study of the subject to see whether beer is really wholesome and life-giving or not, and so it is a pleasure to hear from one who has done so. Colonel Green, President of the Connecticut Mutual Life Insurance Company, says: "In one of the largest cities, containing a great population of beer drinkers, I had occasion to note the deaths among a large group of persons whose habits in their own eyes and in those of their friends and physicians were temperate; but they were habitual users of beer. When the observation began they were, upon the average, something under middle age, and they were, of course, selected lives. For two or three years there was nothing very remarkable to be noted among this group. Presently death began to strike it; and until it had dwindled to a fraction of its original proportions, the mortality in it was astounding in extent, and still more remarkable in the manifest identity of cause and mode. There was no mistaking it; the history was almost invariable; robust, apparent health, full muscles, a fair outside, increasing weight, florid faces; then a touch of cold, or a sniff of malaria, and instantly some acute disease with, almost invariably, typhoid symptoms, was in violent action, and ten days or less ended it. It was as if the system had been kept fair outside, while at the first touch of disease there was utter collapse; every fibre was poisoned and weak. And this, in its main features, varying, of course, in degree, has been my observation in beer-drinking everywhere. It is peculiarly deceptive at first; it is thoroughly destructive at the last." That the habitual use of beer, now so general, produces excessive and chronic congestion of the kidneys, leading gradually to the establishment of disease of these organs, there can be but little doubt. The disease produced is usually some form of Bright's disease.

Most physicians of fifty years of age, or more, are familiar with the fact that a generation ago Bright's disease was rare; now it is one of the most familiar causes of death. Every day's paper contains the names of its victims. The reason for this is manifest; it is the pernicious and foolish habit of daily indulging in beer-drinking.

BACTERIA.—The *Frankfurter Zeitung* states Dr. Reinsch has found, as the result of a long series of minute investigations, that the surfaces of fifty-pfennig pieces (sixpences) which have been long in circulation are the home and feeding-ground of a minute kind of bacteria and vegetable fungus. An extended series of observations showed that this is the case with the small coins of all nations, the thin incrustation of organic matter deposited upon their surfaces in the course of long circulation rendering them very suitable for this parasitical settlement. Dr. Reinsch scraped off some of these incrustations and with a small scalpel divided them into fragments, which were subsequently dissolved in distilled water. The employment of lenses of very high power showed the

bacteria and fungi distinctly. This is a matter of no little importance from a hygienic point of view. It has now been conclusively established that bacteria form the chief agency in the propagation of epidemic disease. The revelation that they have a chosen domicile in the most widely-circulating medium which probably exists in the world presents a new factor in the spread of infectious disease. There is, however, a remedy. Where coins have been in circulation for a number of years, if they are washed in a boiling weak solution of caustic potash they will be cleansed from their organic incrustation, and so freed from the unwelcome guests which they harbored.

Subscribers who are in arrears should at once send on their poisoned gold pieces; the caustic potash will be applied at this office and without charge.

Old Age.—While Dr. Farr's description of the march through life of a million children may need to be somewhat modified in the light of more recent observations, it is still essentially correct: Of a million children born to-day, nearly 150,000 will die within a year; 53,000 in the second year; 28,000 in the third; and less than 4,000 in the thirteenth year. At the end of forty-five years one-half of the million will have died, and at the beginning of sixty years 370,000 will be living. This number will have fallen to 280,000 in ten years more, and at the end of fourscore years only 90,000 will be left. In five years more 52,000 of these will have succumbed, leaving 38,000, of which number 2,100 will still be living at ninety-five, 223 of whom will reach the even century, and of the million starting out to-day but one solitary pilgrim will be found at the end of 108 years. The average life of the million will, according to Dr. Farr, reach 40,588, or nearly 41 years. Later calculations show that improved sanitation has increased the average duration of life to 43.56 years.

Virginia Asylum Superintendents.—"The mills of the gods grind slowly, but they grind very fine." Two years ago the superintendents of these asylums were "turned out," for political reasons solely, by a political party which, then unrespected, has since that time steadily deteriorated, and is now justly repudiated by the best men throughout the old Commonwealth. Recently, this party has been ousted from its strongholds, and, as one of the results, their asylums' superintendents have been sent adrift and proper men placed in power.

Dr. A. M. Fauntleroy has been reinstated as Superintendent of the Western, Va., Asylum, with Drs. William Hamilton and Edward C. Fisher as assistants. At the Central Asylum Dr. Randolph Barksdale has been restored as Superintendent, with Drs. R. G. Cabell and R. H. Jones assistant physicians. At the Eastern Asylum Dr. R. A. Wise has been removed and Dr. James D. Moncure made Superintendent, with Drs. John Clapton and A. Monteiro as assistants.

"Per Orem."—We recently read in the *Journal of the American Medical Association* of administering medicine per orem, and indeed we have seen allusions frequently, in American writings, to this mode of medication. We have consulted latin dictionaries in vain for an explanation of the expression, which seems to be intended for latin. A school boy, it is true, might write orem as

the accusative of os, forgetting the gender of the word, and since physicians—and even editors of medical journals—are not all finished latin scholars, it is just possible that the schoolboy's error has found its way into current medical literature. It is time that a protest be made against so gross a barbarism. *Per os* is correct latin, and if we must use latin phrases, let us treat with due respect the grammatical rules of the classic tongue.—*Detroit Lancet.*

The Newspaper Advertising of Surgical Operations is likely to be followed by the advertising of obstetrical operations. A Philadelphia paper not long since gave more than a column to a description of a Porro-Muller operation. The name of the operator, his assistants and consultants are given, coupled with a glowing account of their learning and skill. In a late number of the *New Haven Register* (Conn.), for Sunday, more than a column was devoted to the details of a Cæsarian section. Here the operator and assistants were made to pose before the readers of the paper as veritable giants in the medical profession, the like of which had not previously appeared upon the earth. It appeared that in this case the woman had passed through the same operation sixteen years ago. All details were given.

The Kentucky State Board of Health has had and is still having a very severe ordeal. It has been so abused and ridiculed by the medical and secular press of its own State as to render any but the pachydermatous miserable and unhappy; and now Governor Proctor Knott has placed the ultimate straw upon the camel's back. He has appointed two homœopaths to positions on the Board. The fact is, the Board has done nothing to secure the respect and confidence of the profession and the people; far less to evoke admiration or commendation. There is but one course left open to it, and that is graceful resignation and final retirement into the safe covert of private life. The experiment in that State has been an absolute failure.

The Probability of Dying.—Every doctor, in his own behalf and in behalf of his patients, is interested in this great question; he will, therefore, read the following with interest and profit. The feature of greatest general interest deduced by Professor Wittstein is the form to which he reduces the equation which represents the probability of dying. It is as follows:

$$W = a^{-(M-x)^n} + -a^{-(mx)^n}_{m}$$

This is very satisfactory, and prognosis is, in futnre, robbed of all uncertainty.

Vick's Floral Guide is better than ever; the cover, with its delicately-tinted background and its gracefully arranged flowers, would entitle it to a permanent place in every home. The book contains three colored plates, is full of illustrations, printed on the best paper, and is filled with just such information as is required by the gardener, the farmer, those growing plants, and every one needing seeds or plants. The price, only ten cents, can be deducted from the first

order sent for seeds. All parties in any way interested in this subject should send at once to James Vick, Rochester, N. Y., for the *Floral Guide.*

THE POOR OF ENGLAND.—Dr. Bristowe, in a recent report to the Camberwell Vestry, says: "Do what we will, a considerable proportion of the population of our large towns will live in filth, and what others term misery; their habits and tendencies are opposed to all sanitary principles, and they are certain to remain a discredit to themselves and us, unless we banish them from our midst, or employ one-half to keep the other half clean, or house them, and feed them and keep them in idleness at the public expense."

A CALIFORNIA physician and ranchman determined to give his stock the benefit of antiseptic precautions. He injected a carbolic acid solution into the vagina of his cows for several days previous and subsequent to labor. He tried the same treatment on a favorite mare. She will be as well as ever by next fall. What a pity that woman can't kick.—*The Weekly Medical Review.* NOTE.—The belles of this country can teach this writer that his pity is not needed.—E. S. G.

THE MEDICAL DEPARTMENT OF THE ARKANSAS INDUSTRIAL UNIVERSITY, Ark., has been outraged by offers, from a pair of scamps, to buy "a certificate to practice," and pledging themselves to swear to anything that the faculty may require. Their offer is signed by J. H. Piland and Steely, Hornfield, Ozark County, Mo. No charge for this notice; and it is hoped that other medical journals will be equally generous.

THE MEDICAL COLLEGE OF VIRGINIA seems to have sunk below contempt. Professors Cunningham, McGuire, McCaw, Manson, James and Tompkins have resigned, and the chair of Dr. Coleman is rendered vacant by his death. Who are to be the successors of these distinguished physicians is not known, but it is feared that good men cannot be induced to work in such an institution.

MR. ERNEST HART'S HUMOR ON NAPLES.—"See Naples and die" is a saying which has, of course, two edges. I should prefer saying that, in order to see Naples and not die, it is advisable to sojourn at Posilipo amid sea breezes which blow away the infection of Naples.

FIRST AID TO THE WOUNDED.—A newspaper reports a lecturer, on "First Aid to the Injured," as saying that "bleeding from the nose is neither Artillery nor Venus, it is Caterpillary."

THE NEW YORK CANCER HOSPITAL has been legally incorporated and the foundation stone laid.

THE INDEX FOR VOL. XXXVII. is made as full and efficient as possible, and has delayed the issue of this number for a few days. The Index for Vol. XXXVI. is being prepared, and will be published in due time.